

## Non-Catalog Model

# Frequency Mixer

Level 10 (LO Power + 10 dBm)

# SCM-5LH

### Important Note

This is a non-catalog model and can be manufactured on specific request.  
Pricing and delivery information can be supplied upon request.

Please click "Back", and then click "Contact Us" for Applications support.



CASE STYLE : YY109

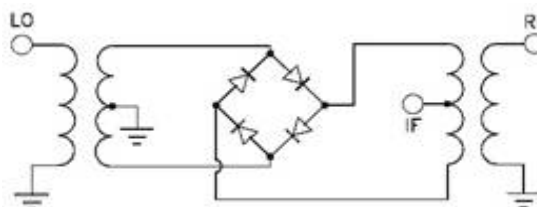
| ELECTRICAL SPECIFICATIONS 50Ω @ +25°C |                                        |      |      |      |       |
|---------------------------------------|----------------------------------------|------|------|------|-------|
| Parameter                             |                                        | Min. | Typ. | Max. | Units |
| Frequency                             | LO (f <sub>L</sub> to f <sub>U</sub> ) | 1250 |      | 1800 | MHz   |
|                                       | RF (f <sub>L</sub> to f <sub>U</sub> ) | 1250 |      | 1800 | MHz   |
|                                       | IF                                     | DC   |      | 500  | MHz   |
| Conversion Loss                       | Total Range                            |      | 6    | 8.8  | dB    |
| LO-RF Isolation                       | Total Range                            | 17   | 26   |      | dB    |
| LO-IF Isolation                       | Total Range                            | 8    | 18   |      | dB    |
| 1 dB Compression                      |                                        |      | 0    |      | dBm   |

RF level: up to + 5dBm

| MAXIMUM RATINGS       |                 |
|-----------------------|-----------------|
| Operating Temperature | -40°C to +85°C  |
| Storage Temperature   | -55°C to +100°C |
| RF Power              | 50mW            |
| IF Current            | 40mA            |

| PIN CONNECTIONS |           |
|-----------------|-----------|
| LO              | 1         |
| RF              | 8         |
| IF              | 3         |
| GROUND          | 2,4,5,6,7 |

### Electrical Schematics



# Frequency Mixer

# SCM-5LH

## Typical Performance Data

| RF<br>(IN)<br>(MHz) | LO<br>(MHz) | CONVERSION LOSS<br>IF FIXED<br>@IF(OUT)=30MHz<br>(dB) |       |       |
|---------------------|-------------|-------------------------------------------------------|-------|-------|
|                     |             | @LO (dBm)                                             |       |       |
|                     |             | +7                                                    | +10   | +13   |
| 800.1               | 830.1       | 11.36                                                 | 10.82 | 10.44 |
| 840.1               | 870.1       | 11.03                                                 | 10.56 | 10.17 |
| 880.1               | 910.1       | 10.58                                                 | 10.14 | 9.78  |
| 920.1               | 950.1       | 10.34                                                 | 9.89  | 9.56  |
| 960.1               | 990.1       | 9.88                                                  | 9.31  | 8.98  |
| 1000.1              | 1030.1      | 9.51                                                  | 8.88  | 8.53  |
| 1040.1              | 1070.1      | 9.08                                                  | 8.43  | 8.05  |
| 1080.1              | 1110.1      | 8.89                                                  | 8.13  | 7.75  |
| 1120.1              | 1150.1      | 8.62                                                  | 7.78  | 7.38  |
| 1160.1              | 1190.1      | 8.38                                                  | 7.58  | 7.14  |
| 1200.1              | 1230.1      | 7.96                                                  | 7.20  | 6.79  |
| 1240.1              | 1270.1      | 7.73                                                  | 7.00  | 6.60  |
| 1280.1              | 1310.1      | 7.50                                                  | 6.79  | 6.40  |
| 1320.1              | 1350.1      | 7.41                                                  | 6.64  | 6.24  |
| 1360.1              | 1390.1      | 7.43                                                  | 6.63  | 6.22  |
| 1400.1              | 1430.1      | 7.00                                                  | 6.27  | 6.10  |
| 1440.1              | 1470.1      | 6.95                                                  | 6.36  | 6.21  |
| 1480.1              | 1510.1      | 6.65                                                  | 6.25  | 6.33  |
| 1520.1              | 1550.1      | 6.70                                                  | 6.44  | 6.35  |
| 1560.1              | 1590.1      | 6.52                                                  | 6.43  | 6.14  |
| 1600.1              | 1630.1      | 6.52                                                  | 6.49  | 5.67  |
| 1650.1              | 1680.1      | 6.45                                                  | 6.32  | 5.54  |
| 1690.1              | 1720.1      | 6.49                                                  | 6.16  | 5.40  |
| 1740.1              | 1770.1      | 6.61                                                  | 6.13  | 5.59  |
| 1780.1              | 1810.1      | 6.64                                                  | 6.21  | 5.71  |
| 1830.1              | 1860.1      | 6.59                                                  | 6.06  | 6.00  |
| 1870.1              | 1900.1      | 6.48                                                  | 6.07  | 6.13  |
| 1920.1              | 1950.1      | 6.70                                                  | 6.33  | 6.41  |
| 1960.1              | 1990.1      | 6.80                                                  | 6.48  | 6.57  |
| 2010.1              | 2040.1      | 7.02                                                  | 6.58  | 6.74  |
| 2050.1              | 2080.1      | 7.35                                                  | 6.79  | 6.89  |
| 2100.1              | 2130.1      | 7.72                                                  | 7.08  | 7.17  |
| 2140.1              | 2170.1      | 8.18                                                  | 7.57  | 7.54  |
| 2190.1              | 2220.1      | 8.41                                                  | 8.10  | 8.08  |
| 2230.1              | 2260.1      | 8.87                                                  | 8.63  | 8.49  |
| 2280.1              | 2310.1      | 8.89                                                  | 8.87  | 8.92  |
| 2320.1              | 2350.1      | 9.48                                                  | 9.42  | 9.33  |
| 2370.1              | 2400.1      | 9.33                                                  | 9.34  | 9.47  |
| 2410.1              | 2440.1      | 10.41                                                 | 10.53 | 10.55 |
| 2460.1              | 2490.1      | 10.20                                                 | 10.90 | 11.46 |

| RF<br>(IN)<br>(MHz) | LO<br>(MHz) | IP3 INPUT<br>(dBm) |       |       |
|---------------------|-------------|--------------------|-------|-------|
|                     |             | @LO (dBm)          |       |       |
|                     |             | +7                 | +10   | +13   |
| 800.1               | 830.1       | 16.82              | 17.09 | 16.45 |
| 840.1               | 870.1       | 16.98              | 17.22 | 16.52 |
| 880.1               | 910.1       | 16.32              | 17.00 | 16.41 |
| 920.1               | 950.1       | 14.90              | 16.06 | 17.23 |
| 960.1               | 990.1       | 13.18              | 15.49 | 16.67 |
| 1000.1              | 1030.1      | 11.55              | 14.49 | 15.62 |
| 1040.1              | 1070.1      | 9.59               | 12.98 | 14.91 |
| 1080.1              | 1110.1      | 9.16               | 11.15 | 13.10 |
| 1120.1              | 1150.1      | 10.86              | 9.45  | 11.84 |
| 1160.1              | 1190.1      | 10.96              | 9.47  | 10.33 |
| 1200.1              | 1230.1      | 10.23              | 8.68  | 8.82  |
| 1240.1              | 1270.1      | 9.72               | 7.82  | 7.53  |
| 1280.1              | 1310.1      | 9.12               | 7.06  | 6.33  |
| 1320.1              | 1350.1      | 9.16               | 7.32  | 4.93  |
| 1360.1              | 1390.1      | 8.59               | 7.33  | 3.68  |
| 1400.1              | 1430.1      | 7.64               | 5.93  | 2.68  |
| 1440.1              | 1470.1      | 6.76               | 4.67  | 2.90  |
| 1480.1              | 1510.1      | 5.22               | 2.86  | 7.80  |
| 1520.1              | 1550.1      | 4.19               | 1.92  | 5.34  |
| 1560.1              | 1590.1      | 3.48               | 2.20  | 3.55  |
| 1600.1              | 1630.1      | 3.21               | 7.36  | 3.51  |
| 1650.1              | 1680.1      | 4.19               | 7.98  | 6.19  |
| 1690.1              | 1720.1      | 6.02               | 7.55  | 8.06  |
| 1740.1              | 1770.1      | 6.68               | 8.98  | 7.73  |
| 1780.1              | 1810.1      | 7.49               | 10.42 | 8.15  |
| 1830.1              | 1860.1      | 8.57               | 8.08  | 9.21  |
| 1870.1              | 1900.1      | 7.82               | 7.58  | 12.48 |
| 1920.1              | 1950.1      | 8.26               | 8.23  | 10.37 |
| 1960.1              | 1990.1      | 8.56               | 7.28  | 10.84 |
| 2010.1              | 2040.1      | 5.53               | 5.50  | 9.76  |
| 2050.1              | 2080.1      | 5.08               | 5.41  | 8.07  |
| 2100.1              | 2130.1      | 5.08               | 3.85  | 8.03  |
| 2140.1              | 2170.1      | 5.45               | 4.43  | 9.11  |
| 2190.1              | 2220.1      | 3.81               | 4.76  | 7.49  |
| 2230.1              | 2260.1      | 3.68               | 5.91  | 7.60  |
| 2280.1              | 2310.1      | 2.51               | 5.05  | 5.60  |
| 2320.1              | 2350.1      | 2.25               | 5.33  | 6.00  |
| 2370.1              | 2400.1      | 1.16               | 3.61  | 5.31  |
| 2410.1              | 2440.1      | 0.90               | 3.97  | 6.00  |
| 2460.1              | 2490.1      | 0.42               | 2.88  | 8.76  |

| RF<br>(IN)<br>(MHz) | LO<br>(MHz) | COMPRESSION<br>@RF IN=0dBm<br>(dB) |       |       |
|---------------------|-------------|------------------------------------|-------|-------|
|                     |             | @LO (dBm)                          |       |       |
|                     |             | +7                                 | +10   | +13   |
| 800.1               | 830.1       | -0.02                              | -0.03 | 0.00  |
| 840.1               | 870.1       | -0.04                              | -0.06 | -0.02 |
| 880.1               | 910.1       | -0.03                              | -0.07 | -0.04 |
| 920.1               | 950.1       | -0.01                              | -0.07 | -0.06 |
| 960.1               | 990.1       | 0.05                               | -0.02 | -0.02 |
| 1000.1              | 1030.1      | 0.15                               | 0.04  | 0.02  |
| 1040.1              | 1070.1      | 0.22                               | 0.09  | 0.07  |
| 1080.1              | 1110.1      | 0.21                               | 0.18  | 0.19  |
| 1120.1              | 1150.1      | 0.15                               | 0.26  | 0.33  |
| 1160.1              | 1190.1      | 0.15                               | 0.31  | 0.46  |
| 1200.1              | 1230.1      | 0.19                               | 0.40  | 0.59  |
| 1240.1              | 1270.1      | 0.20                               | 0.47  | 0.71  |
| 1280.1              | 1310.1      | 0.28                               | 0.59  | 0.88  |
| 1320.1              | 1350.1      | 0.25                               | 0.65  | 1.01  |
| 1360.1              | 1390.1      | 0.20                               | 0.66  | 1.05  |
| 1400.1              | 1430.1      | 0.40                               | 0.84  | 1.02  |
| 1440.1              | 1470.1      | 0.49                               | 0.82  | 0.94  |
| 1480.1              | 1510.1      | 0.70                               | 0.88  | 0.82  |
| 1520.1              | 1550.1      | 0.71                               | 0.76  | 0.84  |
| 1560.1              | 1590.1      | 0.92                               | 0.84  | 1.13  |
| 1600.1              | 1630.1      | 0.92                               | 0.81  | 1.51  |
| 1650.1              | 1680.1      | 1.13                               | 1.00  | 1.43  |
| 1690.1              | 1720.1      | 1.05                               | 0.99  | 1.30  |
| 1740.1              | 1770.1      | 1.11                               | 0.99  | 1.06  |
| 1780.1              | 1810.1      | 1.13                               | 0.83  | 0.91  |
| 1830.1              | 1860.1      | 1.49                               | 0.89  | 0.75  |
| 1870.1              | 1900.1      | 1.50                               | 0.79  | 0.58  |
| 1920.1              | 1950.1      | 1.72                               | 0.90  | 0.45  |
| 1960.1              | 1990.1      | 1.65                               | 0.83  | 0.39  |
| 2010.1              | 2040.1      | 2.22                               | 1.20  | 0.57  |
| 2050.1              | 2080.1      | 2.11                               | 1.17  | 0.57  |
| 2100.1              | 2130.1      | 2.62                               | 1.48  | 0.74  |
| 2140.1              | 2170.1      | 2.58                               | 1.37  | 0.70  |
| 2190.1              | 2220.1      | 3.49                               | 1.78  | 0.92  |
| 2230.1              | 2260.1      | 3.35                               | 1.63  | 0.87  |
| 2280.1              | 2310.1      | 4.04                               | 2.05  | 1.05  |
| 2320.1              | 2350.1      | 4.14                               | 2.10  | 1.12  |
| 2370.1              | 2400.1      | 4.66                               | 2.54  | 1.34  |
| 2410.1              | 2440.1      | 4.68                               | 2.35  | 1.17  |
| 2460.1              | 2490.1      | 5.38                               | 2.59  | 1.14  |

REV. X2

SCM-5LH

101028

Page 1 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant  
P.O. Box 350186, Brooklyn, New York 11235-0008 (718) 934-4500 Fax (718) 332-4861



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



# Frequency Mixer

SCM-5LH

## Typical Performance Data

| IF<br>(OUT)<br>(MHz) | LO<br>(MHz) | CONVERSION LOSS<br>VS. IF FREQUENCY<br>@RF(IN)=1525MHz<br>(dB) | IF<br>(OUT)<br>(MHz) | LO<br>(MHz) | CONVERSION LOSS<br>VS. IF FREQUENCY<br>@RF(IN)=1250.1MHz<br>(dB) | IF<br>(OUT)<br>(MHz) | LO<br>(MHz) | CONVERSION LOSS<br>VS. IF FREQUENCY<br>@RF(IN)=1800.1MHz<br>(dB) |
|----------------------|-------------|----------------------------------------------------------------|----------------------|-------------|------------------------------------------------------------------|----------------------|-------------|------------------------------------------------------------------|
|                      |             | @LO (dBm)                                                      |                      |             | @LO (dBm)                                                        |                      |             | @LO (dBm)                                                        |
|                      |             | +10                                                            |                      |             | +10                                                              |                      |             | +10                                                              |
| 944.9                | 580.1       | 10.28                                                          | 10.0                 | 1260.1      | 7.00                                                             | 1250.0               | 550.1       | 11.63                                                            |
| 905.1                | 619.9       | 6.35                                                           | 30.0                 | 1280.1      | 7.05                                                             | 1210.0               | 590.1       | 8.51                                                             |
| 865.3                | 659.7       | 5.34                                                           | 50.0                 | 1300.1      | 7.19                                                             | 1170.0               | 630.1       | 5.35                                                             |
| 825.6                | 699.4       | 5.07                                                           | 70.0                 | 1320.1      | 7.24                                                             | 1130.0               | 670.1       | 4.77                                                             |
| 785.8                | 739.2       | 4.82                                                           | 90.0                 | 1340.1      | 7.30                                                             | 1090.0               | 710.1       | 4.57                                                             |
| 746.0                | 779.0       | 4.62                                                           | 120.0                | 1370.1      | 7.63                                                             | 1050.0               | 750.1       | 4.38                                                             |
| 706.2                | 818.8       | 4.64                                                           | 140.0                | 1390.1      | 7.78                                                             | 1010.0               | 790.1       | 4.20                                                             |
| 646.5                | 878.5       | 4.49                                                           | 170.0                | 1420.1      | 8.04                                                             | 970.0                | 830.1       | 4.12                                                             |
| 606.7                | 918.3       | 4.44                                                           | 190.0                | 1440.1      | 8.22                                                             | 930.0                | 870.1       | 4.03                                                             |
| 547.1                | 977.9       | 4.33                                                           | 220.0                | 1470.1      | 8.52                                                             | 910.0                | 890.1       | 4.05                                                             |
| 507.3                | 1017.7      | 4.19                                                           | 240.0                | 1490.1      | 8.75                                                             | 870.0                | 930.1       | 3.94                                                             |
| 447.6                | 1077.4      | 4.13                                                           | 270.0                | 1520.1      | 8.99                                                             | 850.0                | 950.1       | 3.94                                                             |
| 407.8                | 1117.2      | 4.11                                                           | 290.0                | 1540.1      | 8.98                                                             | 810.0                | 990.1       | 3.93                                                             |
| 348.2                | 1176.8      | 4.14                                                           | 320.0                | 1570.1      | 8.99                                                             | 790.0                | 1010.1      | 3.92                                                             |
| 308.4                | 1216.6      | 4.24                                                           | 340.0                | 1590.1      | 8.91                                                             | 750.0                | 1050.1      | 3.82                                                             |
| 248.7                | 1276.3      | 4.40                                                           | 370.0                | 1620.1      | 8.51                                                             | 730.0                | 1070.1      | 3.77                                                             |
| 208.9                | 1316.1      | 4.66                                                           | 390.0                | 1640.1      | 8.17                                                             | 690.0                | 1110.1      | 3.78                                                             |
| 149.2                | 1375.8      | 4.87                                                           | 420.0                | 1670.1      | 8.15                                                             | 670.0                | 1130.1      | 3.77                                                             |
| 109.5                | 1415.5      | 5.07                                                           | 440.0                | 1690.1      | 7.94                                                             | 630.0                | 1170.1      | 3.75                                                             |
| 49.8                 | 1475.2      | 5.58                                                           | 470.0                | 1720.1      | 7.69                                                             | 610.0                | 1190.1      | 3.80                                                             |
| 10.0                 | 1515.0      | 6.12                                                           | 490.0                | 1740.1      | 7.67                                                             | 570.0                | 1230.1      | 3.84                                                             |
| 50.2                 | 1575.2      | 6.55                                                           | 520.0                | 1770.1      | 7.74                                                             | 550.0                | 1250.1      | 3.84                                                             |
| 90.4                 | 1615.4      | 6.67                                                           | 540.0                | 1790.1      | 7.63                                                             | 510.0                | 1290.1      | 3.92                                                             |
| 150.8                | 1675.8      | 6.35                                                           | 570.0                | 1820.1      | 7.68                                                             | 490.0                | 1310.1      | 3.93                                                             |
| 191.0                | 1716.0      | 6.07                                                           | 590.0                | 1840.1      | 7.69                                                             | 450.0                | 1350.1      | 3.97                                                             |
| 251.3                | 1776.3      | 6.00                                                           | 620.0                | 1870.1      | 7.82                                                             | 430.0                | 1370.1      | 4.03                                                             |
| 291.5                | 1816.5      | 5.80                                                           | 640.0                | 1890.1      | 7.98                                                             | 390.0                | 1410.1      | 4.21                                                             |
| 351.8                | 1876.8      | 5.77                                                           | 670.0                | 1920.1      | 7.91                                                             | 370.0                | 1430.1      | 4.28                                                             |
| 392.1                | 1917.1      | 5.59                                                           | 690.0                | 1940.1      | 7.71                                                             | 330.0                | 1470.1      | 4.57                                                             |
| 452.4                | 1977.4      | 5.19                                                           | 720.0                | 1970.1      | 7.89                                                             | 310.0                | 1490.1      | 4.73                                                             |
| 492.6                | 2017.6      | 5.04                                                           | 740.0                | 1990.1      | 7.90                                                             | 270.0                | 1530.1      | 5.09                                                             |
| 552.9                | 2077.9      | 5.12                                                           | 770.0                | 2020.1      | 7.71                                                             | 250.0                | 1550.1      | 5.24                                                             |
| 593.1                | 2118.1      | 5.29                                                           | 790.0                | 2040.1      | 7.98                                                             | 210.0                | 1590.1      | 5.89                                                             |
| 653.5                | 2178.5      | 5.69                                                           | 820.0                | 2070.1      | 8.06                                                             | 190.0                | 1610.1      | 6.24                                                             |
| 693.7                | 2218.7      | 6.01                                                           | 840.0                | 2090.1      | 8.36                                                             | 150.0                | 1650.1      | 6.48                                                             |
| 754.0                | 2279.0      | 6.84                                                           | 870.0                | 2120.1      | 8.75                                                             | 130.0                | 1670.1      | 6.41                                                             |
| 794.2                | 2319.2      | 7.57                                                           | 890.0                | 2140.1      | 8.39                                                             | 90.0                 | 1710.1      | 6.23                                                             |
| 854.6                | 2379.6      | 7.87                                                           | 920.0                | 2170.1      | 9.24                                                             | 70.0                 | 1730.1      | 6.22                                                             |
| 894.8                | 2419.8      | 8.87                                                           | 940.0                | 2190.1      | 10.04                                                            | 30.0                 | 1770.1      | 6.21                                                             |
| 955.1                | 2480.1      | 10.70                                                          | 970.0                | 2220.1      | 9.96                                                             | 10.0                 | 1790.1      | 6.26                                                             |

## Typical Performance Data

| LO<br>(MHz) | LO-RF ISOLATION<br>(dB) |       |       | LO-IF ISOLATION<br>(dB) |       |       |
|-------------|-------------------------|-------|-------|-------------------------|-------|-------|
|             | @LO (dBm)               |       |       | @LO (dBm)               |       |       |
|             | +7                      | +10   | +13   | +7                      | +10   | +13   |
| 800.1       | 37.09                   | 35.86 | 35.13 | 15.60                   | 17.92 | 20.07 |
| 840.1       | 34.90                   | 34.00 | 33.41 | 15.35                   | 17.48 | 19.28 |
| 880.1       | 33.19                   | 32.41 | 31.85 | 15.63                   | 17.54 | 19.13 |
| 920.1       | 31.76                   | 30.88 | 30.42 | 15.94                   | 17.72 | 19.08 |
| 960.1       | 30.67                   | 29.86 | 29.39 | 16.35                   | 18.11 | 19.44 |
| 1000.1      | 29.67                   | 29.03 | 28.44 | 16.65                   | 19.03 | 20.37 |
| 1040.1      | 28.90                   | 28.17 | 27.73 | 16.24                   | 18.97 | 20.58 |
| 1080.1      | 28.01                   | 27.42 | 27.06 | 16.15                   | 18.73 | 20.68 |
| 1120.1      | 27.03                   | 26.61 | 26.33 | 16.43                   | 18.65 | 20.49 |
| 1160.1      | 26.28                   | 26.00 | 25.86 | 16.76                   | 18.65 | 20.29 |
| 1200.1      | 25.65                   | 25.48 | 25.48 | 17.51                   | 19.16 | 20.44 |
| 1240.1      | 25.10                   | 25.17 | 25.16 | 17.97                   | 19.34 | 20.21 |
| 1280.1      | 24.62                   | 24.75 | 24.86 | 18.63                   | 19.73 | 20.05 |
| 1320.1      | 24.06                   | 24.32 | 24.51 | 19.10                   | 19.87 | 19.78 |
| 1360.1      | 23.63                   | 24.02 | 24.33 | 18.97                   | 19.62 | 19.28 |
| 1400.1      | 23.44                   | 23.94 | 24.42 | 18.97                   | 19.48 | 18.56 |
| 1440.1      | 23.12                   | 23.84 | 24.36 | 18.22                   | 18.96 | 18.09 |
| 1480.1      | 23.24                   | 24.13 | 24.51 | 17.44                   | 18.20 | 17.21 |
| 1520.1      | 23.46                   | 24.51 | 24.22 | 16.38                   | 17.09 | 16.26 |
| 1560.1      | 23.55                   | 24.88 | 24.54 | 15.38                   | 16.15 | 14.99 |
| 1600.1      | 23.54                   | 24.84 | 24.44 | 14.33                   | 14.97 | 13.84 |
| 1650.1      | 23.65                   | 24.72 | 24.49 | 12.91                   | 13.40 | 12.52 |
| 1690.1      | 24.29                   | 24.99 | 24.56 | 11.76                   | 11.94 | 11.24 |
| 1740.1      | 24.27                   | 24.78 | 24.36 | 10.84                   | 10.82 | 10.36 |
| 1780.1      | 24.55                   | 24.60 | 24.10 | 10.06                   | 9.79  | 9.51  |
| 1830.1      | 24.51                   | 24.23 | 23.61 | 9.75                    | 8.97  | 8.88  |
| 1870.1      | 24.64                   | 24.11 | 23.43 | 9.44                    | 8.28  | 8.08  |
| 1920.1      | 23.99                   | 23.76 | 23.07 | 10.15                   | 8.40  | 7.75  |
| 1960.1      | 23.62                   | 23.40 | 22.83 | 9.56                    | 7.90  | 7.40  |
| 2010.1      | 22.95                   | 22.66 | 21.96 | 9.79                    | 8.08  | 7.18  |
| 2050.1      | 22.56                   | 22.41 | 21.67 | 9.27                    | 7.55  | 6.65  |
| 2100.1      | 21.71                   | 21.47 | 20.76 | 9.01                    | 7.46  | 6.47  |
| 2140.1      | 21.25                   | 21.03 | 20.52 | 8.57                    | 7.18  | 6.35  |
| 2190.1      | 20.57                   | 20.35 | 19.72 | 8.22                    | 6.82  | 5.96  |
| 2230.1      | 19.97                   | 19.94 | 19.43 | 7.67                    | 6.49  | 5.84  |
| 2280.1      | 19.27                   | 19.30 | 18.79 | 7.06                    | 5.96  | 5.19  |
| 2320.1      | 18.71                   | 18.87 | 18.52 | 6.92                    | 5.88  | 5.22  |
| 2370.1      | 18.19                   | 18.49 | 18.20 | 6.33                    | 5.41  | 4.78  |
| 2410.1      | 17.72                   | 18.11 | 17.95 | 6.00                    | 5.45  | 4.81  |
| 2460.1      | 17.07                   | 17.55 | 17.60 | 5.31                    | 4.68  | 4.38  |

| RF<br>(IN)<br>(MHz) | LO<br>(MHz) | RF-IF ISOLATION<br>(dB) |       |       |
|---------------------|-------------|-------------------------|-------|-------|
|                     |             | @LO (dBm)               |       |       |
|                     |             | +7                      | +10   | +13   |
| 800.1               | 830.1       | 20.11                   | 19.62 | 18.83 |
| 840.1               | 870.1       | 19.30                   | 18.82 | 18.35 |
| 880.1               | 910.1       | 18.01                   | 17.54 | 17.25 |
| 920.1               | 950.1       | 17.05                   | 16.68 | 16.42 |
| 960.1               | 990.1       | 16.31                   | 15.89 | 15.63 |
| 1000.1              | 1030.1      | 15.69                   | 15.12 | 14.88 |
| 1040.1              | 1070.1      | 15.35                   | 14.93 | 14.53 |
| 1080.1              | 1110.1      | 14.95                   | 14.71 | 14.35 |
| 1120.1              | 1150.1      | 14.40                   | 14.27 | 14.07 |
| 1160.1              | 1190.1      | 14.19                   | 14.09 | 14.02 |
| 1200.1              | 1230.1      | 13.88                   | 13.75 | 13.65 |
| 1240.1              | 1270.1      | 13.77                   | 13.80 | 13.65 |
| 1280.1              | 1310.1      | 13.72                   | 13.81 | 13.78 |
| 1320.1              | 1350.1      | 13.63                   | 13.70 | 13.92 |
| 1360.1              | 1390.1      | 13.78                   | 13.85 | 14.36 |
| 1400.1              | 1430.1      | 14.04                   | 14.29 | 14.98 |
| 1440.1              | 1470.1      | 14.37                   | 14.72 | 15.66 |
| 1480.1              | 1510.1      | 15.05                   | 15.39 | 15.93 |
| 1520.1              | 1550.1      | 16.08                   | 16.31 | 15.31 |
| 1560.1              | 1590.1      | 17.33                   | 17.73 | 15.22 |
| 1600.1              | 1630.1      | 18.41                   | 18.34 | 15.50 |
| 1650.1              | 1680.1      | 20.03                   | 18.78 | 15.30 |
| 1690.1              | 1720.1      | 21.53                   | 18.56 | 15.13 |
| 1740.1              | 1770.1      | 22.44                   | 18.75 | 15.76 |
| 1780.1              | 1810.1      | 21.37                   | 18.37 | 15.63 |
| 1830.1              | 1860.1      | 19.22                   | 18.52 | 15.72 |
| 1870.1              | 1900.1      | 17.23                   | 17.11 | 14.94 |
| 1920.1              | 1950.1      | 16.20                   | 15.94 | 14.72 |
| 1960.1              | 1990.1      | 15.63                   | 15.11 | 13.50 |
| 2010.1              | 2040.1      | 15.14                   | 14.62 | 12.77 |
| 2050.1              | 2080.1      | 14.39                   | 13.74 | 11.96 |
| 2100.1              | 2130.1      | 13.65                   | 13.04 | 11.08 |
| 2140.1              | 2170.1      | 13.20                   | 12.33 | 10.51 |
| 2190.1              | 2220.1      | 13.21                   | 12.09 | 10.41 |
| 2230.1              | 2260.1      | 12.84                   | 11.52 | 10.05 |
| 2280.1              | 2310.1      | 12.71                   | 11.44 | 10.20 |
| 2320.1              | 2350.1      | 12.44                   | 11.30 | 10.10 |
| 2370.1              | 2400.1      | 12.20                   | 11.13 | 10.29 |
| 2410.1              | 2440.1      | 11.51                   | 10.75 | 10.23 |
| 2460.1              | 2490.1      | 11.47                   | 10.82 | 11.07 |

# Frequency Mixer

# SCM-5LH

## Typical Performance Data

| RF<br>(IN)<br>(MHz) | LO<br>(MHz) | RF VSWR<br>(:1) |       |       | LO<br>(MHz) | LO VSWR<br>(:1) |      |      | IF<br>(OUT)<br>(MHz) | IF VSWR<br>@LO=1800.1MHz<br>(:1) |      |      |
|---------------------|-------------|-----------------|-------|-------|-------------|-----------------|------|------|----------------------|----------------------------------|------|------|
|                     |             | @LO (dBm)       |       |       |             | @LO (dBm)       |      |      |                      | @LO (dBm)                        |      |      |
|                     |             | +7              | +10   | +13   |             | +7              | +10  | +13  |                      | +7                               | +10  | +13  |
| 800.1               | 830.1       | 12.71           | 11.93 | 11.31 | 830.1       | 3.75            | 4.57 | 5.79 | 10.1                 | 2.97                             | 2.32 | 1.82 |
| 840.1               | 870.1       | 10.56           | 9.96  | 9.48  | 870.1       | 3.26            | 4.12 | 5.30 | 50.1                 | 3.11                             | 2.41 | 1.87 |
| 880.1               | 910.1       | 10.07           | 9.53  | 9.04  | 910.1       | 3.01            | 3.95 | 5.10 | 90.1                 | 3.05                             | 2.39 | 1.88 |
| 920.1               | 950.1       | 8.95            | 8.47  | 8.12  | 950.1       | 2.86            | 3.79 | 4.93 | 130.1                | 3.03                             | 2.39 | 1.89 |
| 960.1               | 990.1       | 7.90            | 7.38  | 7.05  | 990.1       | 2.73            | 3.65 | 4.77 | 170.1                | 2.85                             | 2.29 | 1.86 |
| 1000.1              | 1030.1      | 7.50            | 6.94  | 6.58  | 1030.1      | 2.73            | 3.68 | 4.80 | 210.1                | 2.87                             | 2.31 | 1.87 |
| 1040.1              | 1070.1      | 6.30            | 5.85  | 5.52  | 1070.1      | 2.75            | 3.67 | 4.78 | 250.1                | 2.75                             | 2.29 | 1.91 |
| 1080.1              | 1110.1      | 6.13            | 5.58  | 5.25  | 1110.1      | 2.82            | 3.79 | 4.93 | 290.1                | 2.65                             | 2.23 | 1.92 |
| 1120.1              | 1150.1      | 5.33            | 4.75  | 4.46  | 1150.1      | 2.91            | 3.91 | 5.09 | 330.1                | 2.46                             | 2.15 | 1.93 |
| 1160.1              | 1190.1      | 5.02            | 4.46  | 4.09  | 1190.1      | 2.96            | 3.98 | 5.14 | 370.1                | 2.28                             | 1.99 | 1.85 |
| 1200.1              | 1230.1      | 4.44            | 4.00  | 3.65  | 1230.1      | 3.15            | 4.25 | 5.49 | 410.1                | 2.23                             | 1.98 | 1.89 |
| 1240.1              | 1270.1      | 3.85            | 3.48  | 3.20  | 1270.1      | 3.21            | 4.29 | 5.51 | 450.1                | 2.14                             | 1.97 | 1.96 |
| 1280.1              | 1310.1      | 3.63            | 3.24  | 2.95  | 1310.1      | 3.42            | 4.56 | 5.85 | 490.1                | 2.06                             | 1.97 | 2.05 |
| 1320.1              | 1350.1      | 3.13            | 2.78  | 2.49  | 1350.1      | 3.58            | 4.72 | 5.99 | 530.1                | 1.95                             | 1.94 | 2.11 |
| 1360.1              | 1390.1      | 2.99            | 2.62  | 2.31  | 1390.1      | 3.71            | 4.86 | 6.13 | 570.1                | 1.87                             | 1.85 | 2.07 |
| 1400.1              | 1430.1      | 2.48            | 2.19  | 1.99  | 1430.1      | 4.00            | 5.20 | 6.49 | 610.1                | 1.85                             | 1.86 | 2.09 |
| 1440.1              | 1470.1      | 2.24            | 1.94  | 1.74  | 1470.1      | 4.08            | 5.25 | 6.51 | 650.1                | 1.80                             | 1.84 | 2.13 |
| 1480.1              | 1510.1      | 1.94            | 1.68  | 1.59  | 1510.1      | 4.38            | 5.58 | 6.83 | 690.1                | 1.78                             | 1.86 | 2.19 |
| 1520.1              | 1550.1      | 1.74            | 1.48  | 1.37  | 1550.1      | 4.48            | 5.58 | 6.71 | 730.1                | 1.71                             | 1.83 | 2.26 |
| 1560.1              | 1590.1      | 1.61            | 1.31  | 1.36  | 1590.1      | 4.72            | 5.74 | 6.89 | 790.1                | 1.71                             | 1.82 | 2.27 |
| 1600.1              | 1630.1      | 1.44            | 1.07  | 1.42  | 1630.1      | 4.89            | 5.79 | 6.68 | 830.1                | 1.69                             | 1.82 | 2.36 |
| 1650.1              | 1680.1      | 1.37            | 1.11  | 1.48  | 1680.1      | 5.19            | 5.77 | 6.68 | 890.1                | 1.72                             | 1.82 | 2.36 |
| 1690.1              | 1720.1      | 1.40            | 1.29  | 1.66  | 1720.1      | 5.42            | 5.74 | 6.51 | 930.1                | 1.72                             | 1.82 | 2.42 |
| 1740.1              | 1770.1      | 1.57            | 1.39  | 1.67  | 1770.1      | 5.87            | 5.87 | 6.61 | 990.1                | 1.78                             | 1.81 | 2.45 |
| 1780.1              | 1810.1      | 1.70            | 1.64  | 1.85  | 1810.1      | 6.07            | 5.85 | 6.53 | 1030.1               | 1.80                             | 1.81 | 2.50 |
| 1830.1              | 1860.1      | 1.83            | 1.78  | 1.91  | 1860.1      | 6.37            | 5.97 | 6.32 | 1090.1               | 1.82                             | 1.81 | 2.51 |
| 1870.1              | 1900.1      | 2.03            | 2.03  | 2.13  | 1900.1      | 6.53            | 6.15 | 6.44 | 1130.1               | 1.85                             | 1.81 | 2.54 |
| 1920.1              | 1950.1      | 2.18            | 2.21  | 2.25  | 1950.1      | 7.20            | 6.30 | 6.17 | 1190.1               | 1.92                             | 1.83 | 2.60 |
| 1960.1              | 1990.1      | 2.36            | 2.43  | 2.53  | 1990.1      | 7.47            | 6.53 | 6.30 | 1230.1               | 1.98                             | 1.84 | 2.63 |
| 2010.1              | 2040.1      | 2.45            | 2.48  | 2.57  | 2040.1      | 7.60            | 6.39 | 5.97 | 1290.1               | 2.04                             | 1.87 | 2.68 |
| 2050.1              | 2080.1      | 2.72            | 2.73  | 2.85  | 2080.1      | 7.76            | 6.58 | 6.11 | 1330.1               | 2.10                             | 1.89 | 2.72 |
| 2100.1              | 2130.1      | 2.94            | 2.85  | 2.93  | 2130.1      | 7.56            | 6.35 | 5.72 | 1390.1               | 2.19                             | 1.94 | 2.82 |
| 2140.1              | 2170.1      | 3.14            | 3.04  | 3.14  | 2170.1      | 7.53            | 6.56 | 5.95 | 1430.1               | 2.29                             | 1.97 | 2.82 |
| 2190.1              | 2220.1      | 3.38            | 3.21  | 3.23  | 2220.1      | 7.22            | 6.13 | 5.51 | 1490.1               | 2.34                             | 2.03 | 2.88 |
| 2230.1              | 2260.1      | 3.40            | 3.26  | 3.29  | 2260.1      | 7.20            | 6.21 | 5.66 | 1530.1               | 2.42                             | 2.08 | 2.92 |
| 2280.1              | 2310.1      | 3.71            | 3.53  | 3.52  | 2310.1      | 6.86            | 5.75 | 5.20 | 1590.1               | 2.47                             | 2.14 | 3.01 |
| 2320.1              | 2350.1      | 3.65            | 3.52  | 3.51  | 2350.1      | 6.76            | 5.70 | 5.00 | 1630.1               | 2.52                             | 2.21 | 3.07 |
| 2370.1              | 2400.1      | 3.91            | 3.77  | 3.76  | 2400.1      | 6.17            | 5.17 | 4.86 | 1690.1               | 2.48                             | 2.24 | 3.02 |
| 2410.1              | 2440.1      | 3.68            | 3.52  | 3.55  | 2440.1      | 5.83            | 5.03 | 4.70 | 1730.1               | 2.54                             | 2.31 | 3.09 |
| 2460.1              | 2490.1      | 3.95            | 3.71  | 3.66  | 2490.1      | 5.41            | 5.09 | 4.48 | 1790.1               | 2.48                             | 2.33 | 3.09 |

## Harmonics Tables

### RF HARMONICS ORDER

|        | (-dBm) | (-dBc) |     |     |     |     |     |     |     |     |     |     |
|--------|--------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0      | -      | -      | +14 | 5   | 1   | 55  | 15  | 33  | 15  | 38  | 34  | 39  |
| 1      | -      | 11     | +0  | 22  | 22  | 39  | 49  | 48  | 39  | 56  | 49  | 61  |
| 2      | 86     | 53     | 26  | 35  | 27  | 46  | 46  | 65  | 49  | 53  | 39  | 61  |
| 3      | >90    | 61     | 57  | 47  | 44  | 49  | 59  | 65  | 68  | >69 | 61  | 66  |
| 4      | >90    | >69    | >69 | >69 | 57  | 62  | 59  | >69 | >69 | >69 | >69 | >69 |
| 5      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 6      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 7      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 8      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 9      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 10     | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| RF CAL | 0      | 1      | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |     |

Test conditions:

RF IN: 1525 MHz; -15.00 dBm.

LO IN: 1535 MHz; +10.00 dBm

IF OUT: 10 MHz; -21.46 dBm

### RF HARMONICS ORDER

|        | (-dBm) | (-dBc) |     |     |     |     |     |     |     |     |     |     |
|--------|--------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0      | -      | -      | +6  | 16  | 11  | 55  | 26  | 50  | 31  | 50  | 46  | 54  |
| 1      | -      | 10     | +0  | 20  | 25  | 40  | 52  | 52  | 38  | 53  | 49  | 63  |
| 2      | 65     | 50     | 17  | 25  | 18  | 45  | 43  | 64  | 45  | 60  | 40  | 70  |
| 3      | >90    | 50     | 42  | 37  | 33  | 41  | 41  | 58  | 59  | 61  | 55  | 61  |
| 4      | >90    | 75     | 55  | 65  | 36  | 41  | 39  | 52  | 62  | 74  | 64  | 60  |
| 5      | >90    | 75     | >78 | 64  | 56  | 49  | 44  | 52  | 55  | 65  | 74  | 68  |
| 6      | >90    | 67     | 71  | >78 | 68  | 66  | 52  | 50  | 61  | 68  | 70  | >78 |
| 7      | >90    | 70     | 71  | >78 | >78 | 71  | 69  | 56  | 55  | 56  | >78 | 72  |
| 8      | >90    | >78    | 74  | >78 | >78 | >78 | >78 | 72  | 63  | 57  | 68  | 76  |
| 9      | >90    | >78    | >78 | >78 | >78 | >78 | >78 | >78 | >78 | 62  | 67  | 62  |
| 10     | >90    | >78    | >78 | >78 | >78 | >78 | >78 | >78 | >78 | >78 | 74  | 63  |
| RF CAL | 0      | 1      | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |     |

### LO HARMONICS ORDER

Test conditions:

RF IN: 1525 MHz; -5.00 dBm.

LO IN: 1535 MHz; +10.00 dBm

IF OUT: 10 MHz; -11.75 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.

REV. X2

SCM-5LH

101028

Page 5 of 5



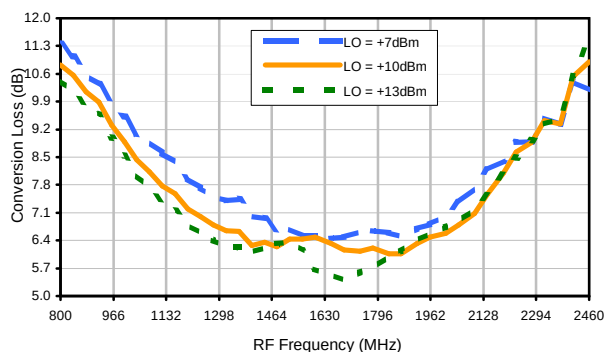
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED RoHS compliant  
P.O. Box 350186, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see

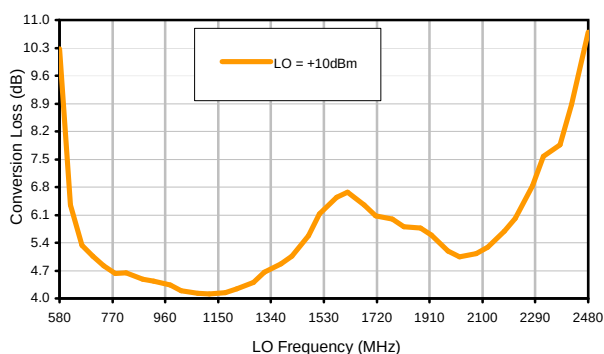


## Typical Performance Curves

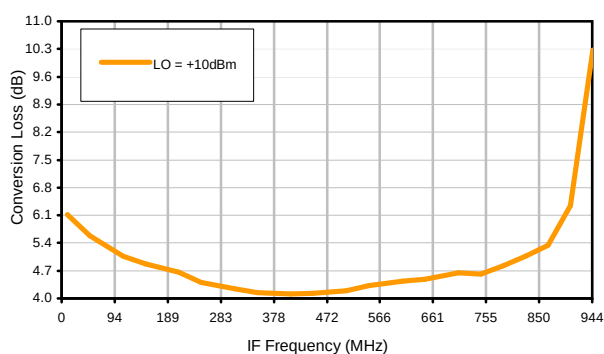
Conversion Loss @ IF=30MHz



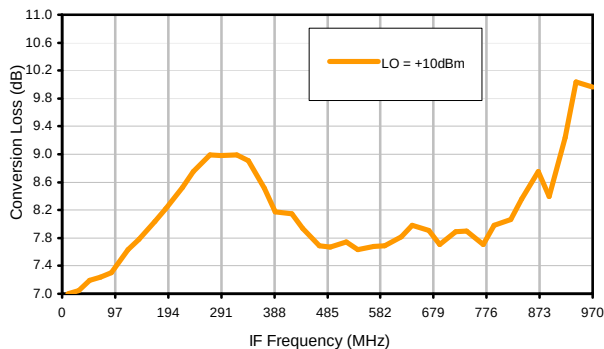
Conversion Loss vs. LO @ RF=1525MHz



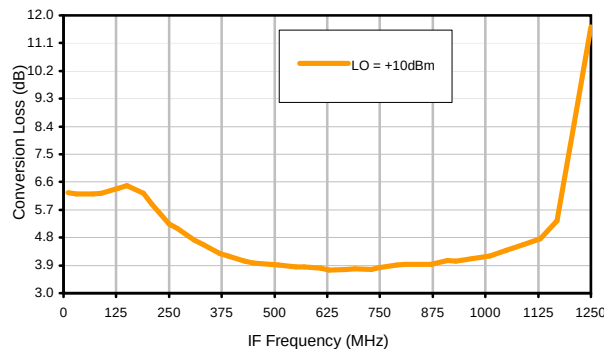
Conversion Loss vs. IF @ RF=1525MHz



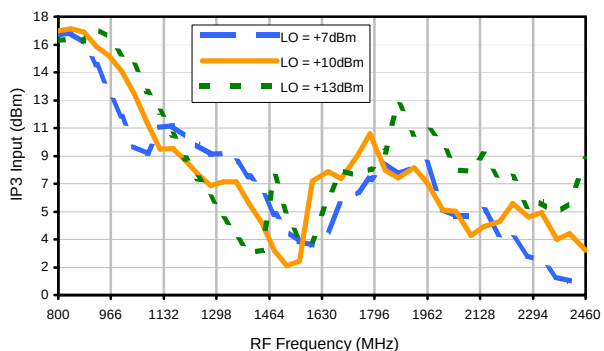
Conversion Loss vs. IF @ RF=1250.1MHz



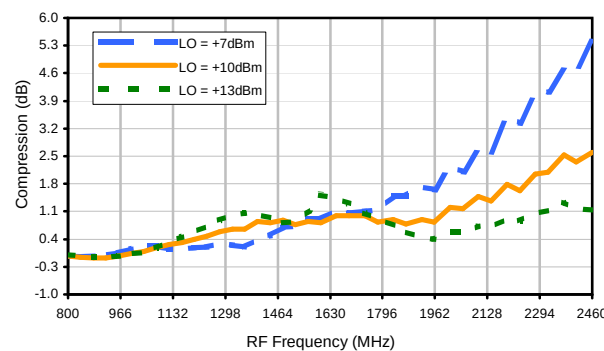
Conversion Loss vs. IF @ RF=1800.1MHz



IP3 Input



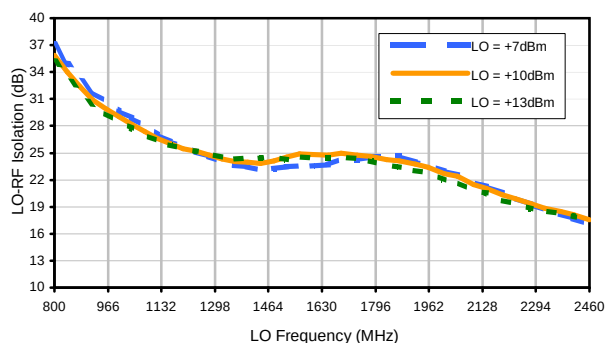
Compression @ RF IN=0dBm



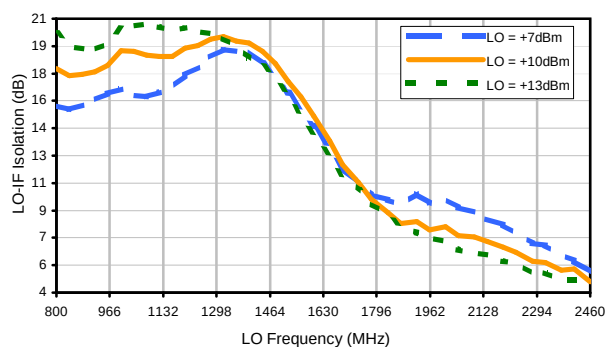


## Typical Performance Curves

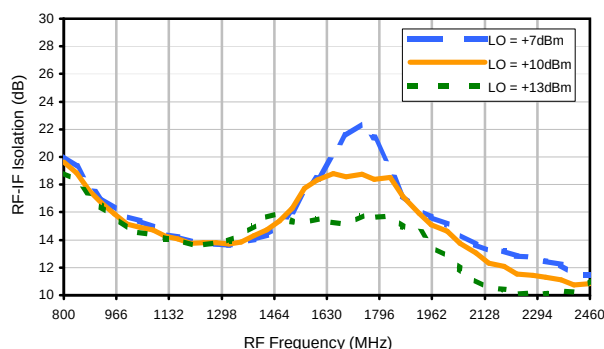
LO-RF Isolation



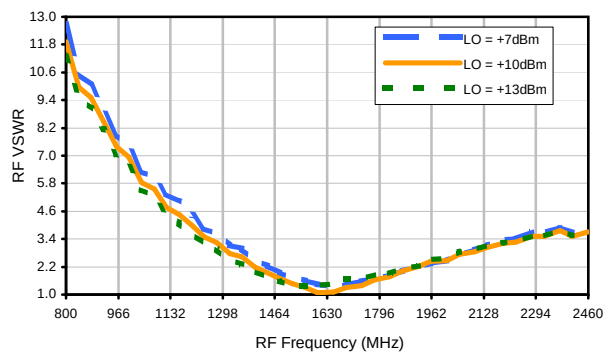
LO-IF Isolation



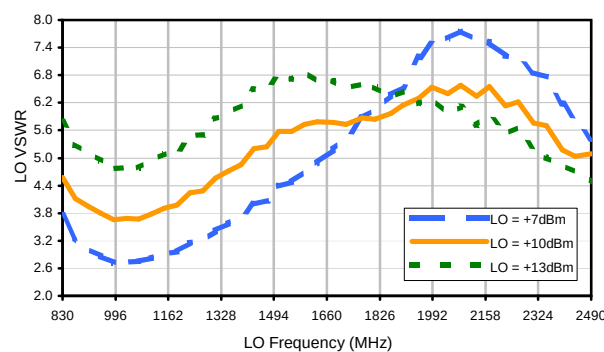
RF-IF Isolation



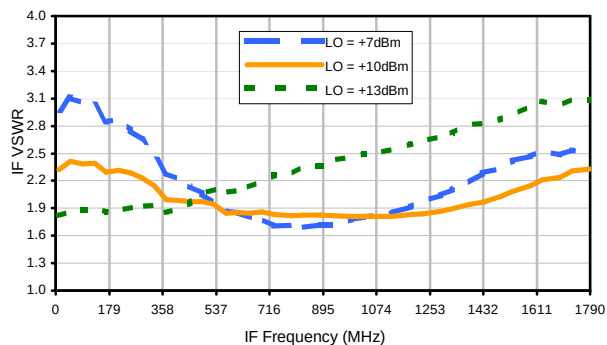
RF VSWR



LO VSWR



IF VSWR





## Harmonics Tables

### RF HARMONICS ORDER

|        | (-dBm) | (-dBc) |     |     |     |     |     |     |     |     |     |     |
|--------|--------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0      | -      | -      | +14 | 5   | 1   | 55  | 15  | 33  | 15  | 38  | 34  | 39  |
| 1      | -      | 11     | +0  | 22  | 22  | 39  | 49  | 48  | 39  | 56  | 49  | 61  |
| 2      | 86     | 53     | 26  | 35  | 27  | 46  | 46  | 65  | 49  | 53  | 39  | 61  |
| 3      | >90    | 61     | 57  | 47  | 44  | 49  | 59  | 65  | 68  | >69 | 61  | 66  |
| 4      | >90    | >69    | >69 | >69 | 57  | 62  | 59  | >69 | >69 | >69 | >69 | >69 |
| 5      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 6      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 7      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 8      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 9      | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| 10     | >90    | >69    | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 | >69 |
| RF CAL | 0      | 1      | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |     |

Test conditions:

RF IN: 1525 MHz; -15.00 dBm.

LO IN: 1535 MHz; +10.00 dBm

IF OUT: 10 MHz; -21.46 dBm

### RF HARMONICS ORDER

|        | (-dBm) | (-dBc) |     |     |     |     |     |     |     |     |     |     |
|--------|--------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0      | -      | -      | +6  | 16  | 11  | 55  | 26  | 50  | 31  | 50  | 46  | 54  |
| 1      | -      | 10     | +0  | 20  | 25  | 40  | 52  | 52  | 38  | 53  | 49  | 63  |
| 2      | 65     | 50     | 17  | 25  | 18  | 45  | 43  | 64  | 45  | 60  | 40  | 70  |
| 3      | >90    | 50     | 42  | 37  | 33  | 41  | 41  | 58  | 59  | 61  | 55  | 61  |
| 4      | >90    | 75     | 55  | 65  | 36  | 41  | 39  | 52  | 62  | 74  | 64  | 60  |
| 5      | >90    | 75     | >78 | 64  | 56  | 49  | 44  | 52  | 55  | 65  | 74  | 68  |
| 6      | >90    | 67     | 71  | >78 | 68  | 66  | 52  | 50  | 61  | 68  | 70  | >78 |
| 7      | >90    | 70     | 71  | >78 | >78 | 71  | 69  | 56  | 55  | 56  | >78 | 72  |
| 8      | >90    | >78    | 74  | >78 | >78 | >78 | >78 | 72  | 63  | 57  | 68  | 76  |
| 9      | >90    | >78    | >78 | >78 | >78 | >78 | >78 | >78 | >78 | 62  | 67  | 62  |
| 10     | >90    | >78    | >78 | >78 | >78 | >78 | >78 | >78 | >78 | >78 | 74  | 63  |
| RF CAL | 0      | 1      | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |     |

### LO HARMONICS ORDER

Test conditions:

RF IN: 1525 MHz; -5.00 dBm.

LO IN: 1535 MHz; +10.00 dBm

IF OUT: 10 MHz; -11.75 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.

REV. X2

SCM-5LH

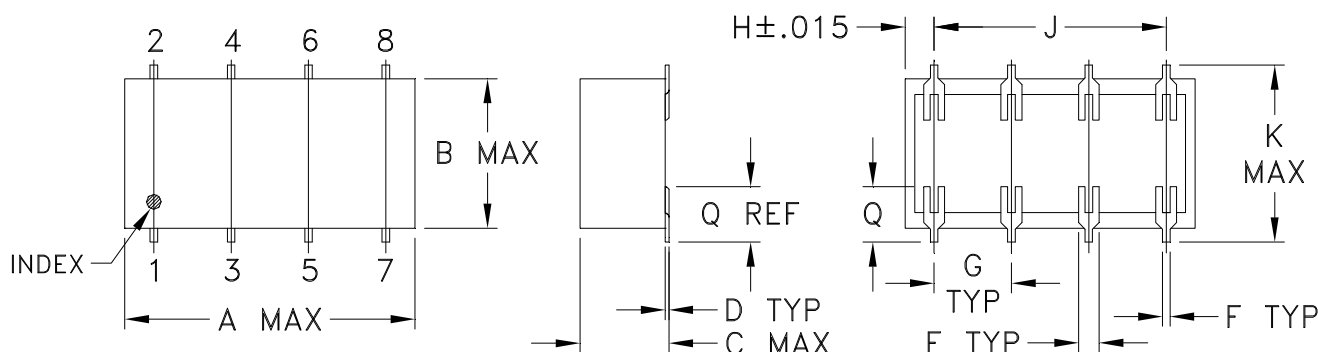
101028

Page 3 of 3

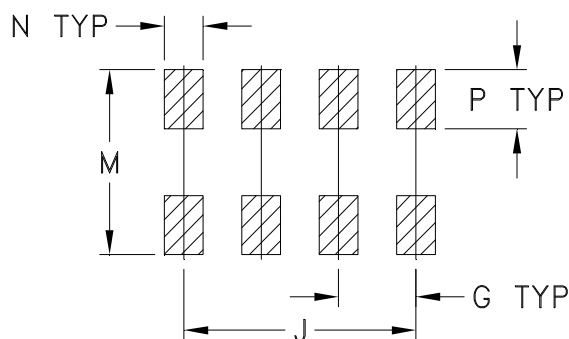


## Outline Dimensions

YY101  
YY109  
YY161



## PCB Land Pattern



Suggested Layout  
Tolerance to be within  $\pm.002$

| CASE#  | A              | B             | C             | D              | E              | F              | G              | H              | J               | K               | L  | M               | N              | P              | Q              | WT.<br>GRAM<br>S |
|--------|----------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|----|-----------------|----------------|----------------|----------------|------------------|
| YY101* |                |               | .20<br>(5.08) |                |                |                |                |                |                 | .450<br>(11.43) | -- | .470<br>(11.94) |                |                |                | 1.6              |
| YY109* | .75<br>(19.05) | .38<br>(9.65) | .20<br>(5.08) | .010<br>(0.25) | .050<br>(1.27) | .020<br>(0.51) | .200<br>(5.08) | .075<br>(1.91) | .600<br>(15.24) | .720<br>(18.29) | -- | .740<br>(18.80) | .100<br>(2.54) | .150<br>(3.81) | .148<br>(3.76) | 1.6              |
| YY161  |                |               | .28<br>(7.11) |                |                |                |                |                |                 | .450<br>(11.43) | -- | .470<br>(11.94) |                |                |                | 1.6              |

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .01$ ; 3 Pl.  $\pm .005$

### Notes:

- Case material: Plastic.
- Termination finish:  
For RoHS Case Styles: Tin plate over Nickel plate.  
For RoHS-5 Case Styles: Tin-Lead plate.
- Special Tolerances: Termination thickness  $\pm .003$  inch.
- \* Denotes: For SCM mixers, long termination version (case YY109) is available upon request, consult factory. To order short termination version (case YY101) add -NL suffix.



INTERNET <http://www.minicircuits.com>

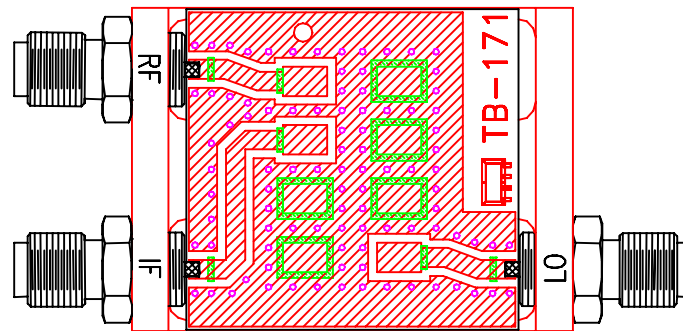
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

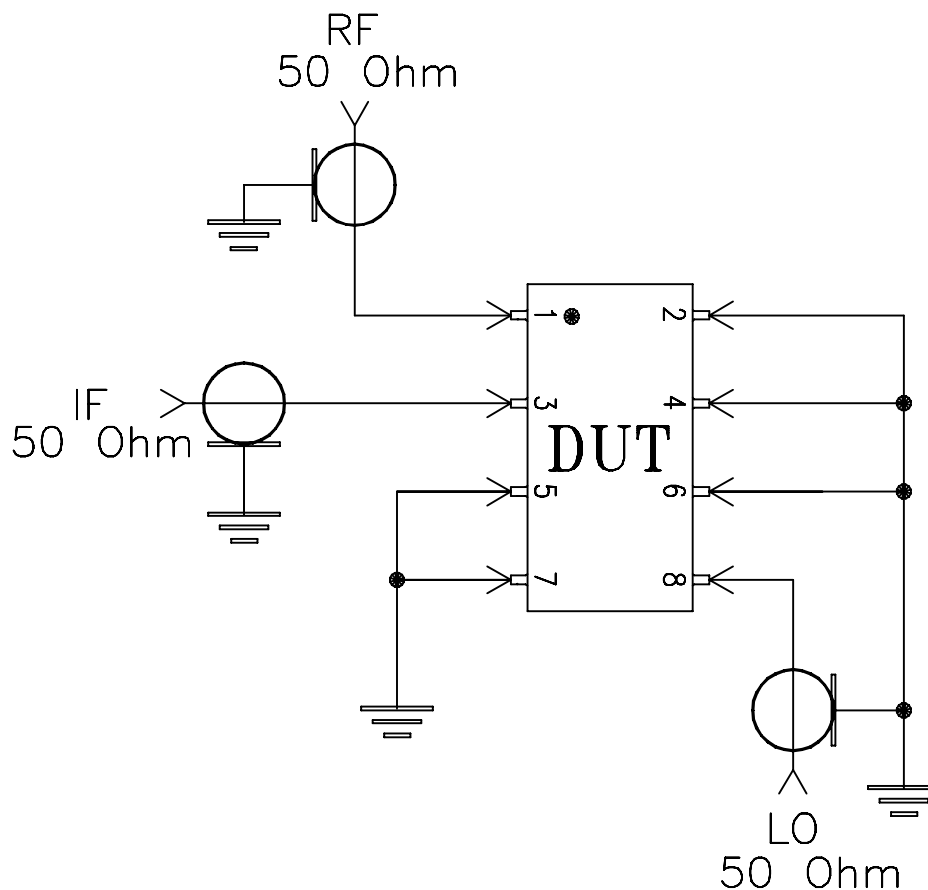
Mini-Circuits ISO 9001 & ISO 14001 Certified



# Evaluation Board and Circuit



TB-171



Schematic Diagram

## Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,  
Dielectric Constant=3.5, Thickness=.030 inch.

 **Mini-Circuits®**



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification                  | Test/Inspection Condition                                                                                                                                       | Reference/Spec                                                                                       |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Operating Temperature          | -40° to 85°C<br>Ambient Environment                                                                                                                             | Individual Model Data Sheet                                                                          |
| Storage Temperature            | -55° to 100° C<br>Ambient Environment                                                                                                                           | Individual Model Data Sheet                                                                          |
| Humidity                       | 90 to 95% RH, 240 hours, 50°C                                                                                                                                   | MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours |
| Thermal Shock                  | -55° to 100°C, 100 cycles                                                                                                                                       | MIL-STD-202, Method 107, Condition A-3, except +100°C                                                |
| Solder Reflow Heat             | Sn-Pb Eutetic Process: 225°C peak<br>Pb-Free Process 245° - 250°C peak                                                                                          | J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1                                                        |
| Solderability                  | 10X Magnification                                                                                                                                               | J-STD-002, 95% Coverage                                                                              |
| Vibration (High Frequency)     | 20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)                                                                             | MIL-STD-202, Method 204, Condition D                                                                 |
| Mechanical Shock               | 50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes                                                                                               | MIL-STD-202, Method 213, Condition A                                                                 |
| Marking Resistance to Solvents | Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C;<br>distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C | MIL-STD-202, Method 215                                                                              |