Frequency Mixer MCA-272FH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=470MHz (dB) @LO (dBm)		
		+15	+17	+19
2450.1	1980.1	7.49	7.30	7.22
2460.1	1990.1	7.51	7.33	7.26
2470.1	2000.1	7.54	7.36	7.30
2480.1	2010.1	7.53	7.35	7.28
2490.1	2020.1	7.48	7.31	7.25
2500.1	2030.1	7.49	7.35	7.32
2510.1	2040.1	7.45	7.35	7.34
2520.1	2050.1	7.45	7.36	7.36
2530.1	2060.1	7.47	7.39	7.40
2540.1	2070.1	7.52	7.45	7.46
2550.1	2080.1	7.53	7.46	7.46
2560.1	2090.1	7.50	7.41	7.39
2570.1	2100.1	7.50	7.41	7.38
2580.1	2110.1	7.53	7.43	7.41
2590.1	2120.1	7.49	7.39	7.37
2600.1	2130.1	7.44	7.35	7.32
2610.1	2140.1	7.50	7.42	7.40
2620.1	2150.1	7.59	7.52	7.51
2630.1	2160.1	7.64	7.56	7.53
2640.1	2170.1	7.68	7.59	7.55
2650.1	2180.1	7.76	7.68	7.64
2660.1	2190.1	7.81	7.71	7.66
2670.1	2200.1	7.79	7.68	7.62
2680.1	2210.1	7.79	7.68	7.61
2690.1	2220.1	7.82	7.72	7.65
2700.1	2230.1	7.85	7.73	7.64
2710.1	2240.1	7.87	7.74	7.64
2720.1	2250.1	7.95	7.81	7.71
2730.1	2260.1	8.01	7.87	7.77
2740.1	2270.1	8.03	7.88	7.76
2750.1	2280.1	8.02	7.85	7.71
2760.1	2290.1	8.02	7.84	7.72
2770.1	2300.1	8.03	7.84	7.72
2780.1	2310.1	8.03	7.83	7.70
2790.1	2320.1	8.06	7.85	7.71
2800.1	2330.1	8.14	7.92	7.77
2810.1	2340.1	8.26	8.00	7.84
2820.1	2350.1	8.34	8.07	7.88
2830.1	2360.1	8.42	8.13	7.93
2840.1	2370.1	8.49	8.18	7.97

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+15	+17	+19
2450.1	1980.1	23.28	27.05	35.11
2460.1	1990.1	23.63	27.50	36.94
2470.1	2000.1	23.88	27.83	35.97
2480.1	2010.1	24.26	28.40	35.78
2490.1	2020.1	24.64	28.85	36.70
2500.1	2030.1	25.34	29.69	37.01
2510.1	2040.1	25.79	30.00	35.76
2520.1	2050.1	26.19	30.37	34.84
2530.1	2060.1	26.57	30.44	34.72
2540.1	2070.1	26.50	30.27	35.15
2550.1	2080.1	26.47	30.13	34.64
2560.1	2090.1	26.32	29.64	33.84
2570.1	2100.1	26.10	29.38	33.12
2580.1	2110.1	26.01	29.18	32.74
2590.1	2120.1	26.26	29.64	33.19
2600.1	2130.1	26.67	29.69	32.99
2610.1	2140.1	26.68	29.63	32.24
2620.1	2150.1	26.66	29.44	31.90
2630.1	2160.1	26.71	29.51	31.77
2640.1	2170.1	26.84	29.71	32.11
2650.1	2180.1	26.98	29.82	32.76
2660.1	2190.1	27.12	30.08	33.29
2670.1	2200.1	27.54	30.61	34.35
2680.1	2210.1	27.83	31.01	34.99
2690.1	2220.1	27.26	30.52	34.18
2700.1	2230.1	26.94	29.86	33.46
2710.1	2240.1	26.46	29.47	32.92
2720.1	2250.1	26.15	28.99	32.44
2730.1	2260.1	25.72	28.22	31.20
2740.1	2270.1	25.58	27.86	30.80
2750.1	2280.1	25.46	27.93	30.48
2760.1	2290.1	25.47	27.75	30.11
2770.1	2300.1	25.17	27.53	29.58
2780.1	2310.1	24.89	27.21	29.06
2790.1	2320.1	24.41	26.86	28.68
2800.1	2330.1	23.98	26.29	28.13
2810.1	2340.1	23.82	25.95	27.61
2820.1	2350.1	23.75	25.73	27.38
2830.1	2360.1	23.71	25.68	27.29
2840.1	2370.1	23.94	25.89	27.25

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+15dBm (dB) @LO (dBm)		
		+15	+17	+19
2450.1	1980.1	0.34	0.20	0.10
2460.1	1990.1	0.32	0.19	0.09
2470.1	2000.1	0.32	0.19	0.09
2480.1	2010.1	0.30	0.17	0.09
2490.1	2020.1	0.28	0.16	0.07
2500.1	2030.1	0.25	0.13	0.05
2510.1	2040.1	0.22	0.10	0.04
2520.1	2050.1	0.18	0.08	0.03
2530.1	2060.1	0.15	0.06	0.02
2540.1	2070.1	0.14	0.06	0.03
2550.1	2080.1	0.13	0.06	0.03
2560.1	2090.1	0.13	0.06	0.04
2570.1	2100.1	0.13	0.06	0.04
2580.1	2110.1	0.13	0.06	0.04
2590.1	2120.1	0.13	0.07	0.05
2600.1	2130.1	0.12	0.07	0.05
2610.1	2140.1	0.12	0.07	0.05
2620.1	2150.1	0.12	0.06	0.04
2630.1	2160.1	0.12	0.06	0.04
2640.1	2170.1	0.12	0.05	0.02
2650.1	2180.1	0.10	0.03	0.01
2660.1	2190.1	0.09	0.03	0.01
2670.1	2200.1	0.08	0.02	0.01
2680.1	2210.1	0.08	0.02	0.01
2690.1	2220.1	0.09	0.02	0.01
2700.1	2230.1	0.11	0.03	0.01
2710.1	2240.1	0.14	0.03	0.00
2720.1	2250.1	0.17	0.04	0.00
2730.1	2260.1	0.20	0.05	0.00
2740.1	2270.1	0.22	0.07	0.00
2750.1	2280.1	0.25	0.09	0.00
2760.1	2290.1	0.28	0.09	0.01
2770.1	2300.1	0.32	0.12	0.02
2780.1	2310.1	0.37	0.15	0.04
2790.1	2320.1	0.43	0.20	0.06
2800.1	2330.1	0.50	0.25	0.10
2810.1	2340.1	0.54	0.30	0.13
2820.1	2350.1	0.58	0.34	0.16
2830.1	2360.1	0.62	0.37	0.19
2840.1	2370.1	0.65	0.41	0.23

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2600.1001MHz (dB) @LO (dBm) +17
930.0	1670.1	11.19
884.0	1716.1	10.37
838.0	1762.1	9.72
792.0	1808.1	9.18
746.0	1854.1	8.70
700.0	1900.1	8.20
654.0	1946.1	7.94
608.0	1992.1	7.90
562.0	2038.1	7.58
516.0	2084.1	7.53
470.0	2130.1	7.35
424.0	2176.1	7.33
378.0	2222.1	7.31
332.0	2268.1	7.22
286.0	2314.1	6.99
240.0	2360.1	6.93
194.0	2406.1	7.33
148.0	2452.1	7.79
102.0	2498.1	8.08
56.0	2544.1	10.12
27.5	2627.6	14.78
62.5	2662.6	10.02
97.5	2697.6	8.62
132.5	2732.6	8.17
167.5	2767.6	7.90
202.5	2802.6	7.98
237.5	2837.6	8.27
272.5	2872.6	8.28
307.5	2907.6	8.65
342.5	2942.6	8.90
377.5	2977.6	8.81
412.5	3012.6	9.18
447.5	3047.6	9.23
482.5	3082.6	9.20
535.0	3135.1	9.36
570.0	3170.1	9.67
622.5	3222.6	10.54
657.5	3257.6	10.33

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2500.1001MHz (dB) @LO (dBm) +17
10.0	2510.1	21.54
30.0	2530.1	13.46
50.0	2550.1	10.58
70.0	2570.1	9.11
90.0	2590.1	8.39
110.0	2610.1	8.03
130.0	2630.1	7.89
150.0	2650.1	7.85
170.0	2670.1	7.80
190.0	2690.1	7.82
210.0	2710.1	7.90
230.0	2730.1	8.02
250.0	2750.1	8.10
270.0	2770.1	8.07
290.0	2790.1	8.16
310.0	2810.1	8.42
330.0	2830.1	8.64
350.0	2850.1	8.74
370.0	2870.1	8.70
390.0	2890.1	8.89
430.0	2930.1	9.33
450.0	2950.1	9.41
470.0	2970.1	9.34
490.0	2990.1	9.41
510.0	3010.1	9.53
530.0	3030.1	9.66
550.0	3050.1	9.49
570.0	3070.1	9.41
590.0	3090.1	9.49
610.0	3110.1	9.75
630.0	3130.1	9.81
650.0	3150.1	9.84
670.0	3170.1	9.91
690.0	3190.1	10.22
710.0	3210.1	10.56
730.0	3230.1	10.75
760.0	3260.1	10.33
780.0	3280.1	10.36

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2700.1001MHz (dB) @LO (dBm) +17
1030.0	1670.1	11.21
1010.0	1690.1	10.89
990.0	1710.1	10.74
970.0	1730.1	10.55
950.0	1750.1	10.32
930.0	1770.1	9.92
910.0	1790.1	9.57
890.0	1810.1	9.26
870.0	1830.1	9.17
850.0	1850.1	9.05
830.0	1870.1	8.82
810.0	1890.1	8.57
790.0	1910.1	8.45
770.0	1930.1	8.31
750.0	1950.1	8.20
730.0	1970.1	8.05
690.0	2010.1	7.93
670.0	2030.1	7.81
630.0	2070.1	7.74
610.0	2090.1	7.89
550.0	2150.1	7.74
510.0	2190.1	7.82
490.0	2210.1	7.76
450.0	2250.1	7.67
430.0	2270.1	7.54
390.0	2310.1	7.41
370.0	2330.1	7.38
330.0	2370.1	7.35
310.0	2390.1	7.33
270.0	2430.1	7.91
250.0	2450.1	7.92
210.0	2490.1	7.75
190.0	2510.1	7.74
150.0	2550.1	7.89
130.0	2570.1	7.96
90.0	2610.1	8.68
70.0	2630.1	9.65
30.0	2670.1	14.44

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+15	+17	+19	+15	+17	+19
1980.1	34.32	34.21	34.04	24.61	25.06	25.49
1990.1	33.91	33.68	33.42	24.30	24.75	25.21
2000.1	33.49	33.09	32.84	24.08	24.50	25.01
2010.1	33.05	32.53	32.14	23.74	24.15	24.71
2020.1	33.03	32.45	32.02	23.70	24.14	24.67
2030.1	32.47	31.85	31.39	23.59	24.10	24.75
2040.1	31.96	31.39	30.78	23.51	24.11	24.75
2050.1	32.03	31.44	30.87	23.44	24.03	24.69
2060.1	32.45	31.90	31.34	23.61	24.30	24.97
2070.1	32.65	31.98	31.43	23.78	24.46	25.16
2080.1	32.59	31.92	31.34	23.91	24.60	25.31
2090.1	33.09	32.42	31.68	23.84	24.53	25.06
2100.1	33.66	32.93	32.06	24.07	24.72	25.13
2110.1	33.87	33.02	32.07	24.47	24.95	25.23
2120.1	33.78	32.92	31.89	24.63	25.01	25.10
2130.1	33.84	33.11	31.84	24.36	24.69	24.48
2140.1	34.18	33.39	32.05	24.51	24.76	24.53
2150.1	34.38	33.53	32.19	24.36	24.57	24.32
2160.1	34.57	33.70	32.37	24.59	24.70	24.43
2170.1	34.81	34.01	32.70	24.47	24.55	24.30
2180.1	34.83	34.08	32.80	24.63	24.72	24.52
2190.1	34.68	33.95	32.72	24.70	24.81	24.64
2200.1	34.46	33.77	32.70	24.88	24.99	24.93
2210.1	34.65	34.06	32.89	24.92	25.02	24.88
2220.1	34.80	34.24	33.04	25.00	25.13	25.03
2230.1	35.01	34.53	33.37	25.21	25.35	25.26
2240.1	35.31	34.88	33.91	25.37	25.49	25.51
2250.1	35.38	35.08	34.21	25.48	25.59	25.63
2260.1	35.49	35.26	34.38	25.58	25.74	25.76
2270.1	35.34	35.16	34.35	25.84	25.99	26.04
2280.1	35.66	35.62	34.73	26.04	26.22	26.18
2290.1	35.48	35.27	34.68	26.27	26.23	26.39
2300.1	35.40	35.26	34.65	26.39	26.31	26.48
2310.1	35.31	35.20	34.64	26.61	26.55	26.69
2320.1	35.41	35.48	34.94	26.72	26.71	26.88
2330.1	35.32	35.45	34.95	26.92	26.82	26.96
2340.1	35.31	35.58	35.14	27.15	27.03	27.16
2350.1	35.43	35.85	35.40	27.29	27.27	27.39
2360.1	35.81	36.20	35.77	27.51	27.41	27.55
2370.1	36.56	36.92	36.41	27.62	27.51	27.67

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+15	+17	+19
2450.1	1980.1	22.93	23.12	22.94
2460.1	1990.1	23.21	23.34	23.12
2470.1	2000.1	23.50	23.68	23.40
2480.1	2010.1	23.77	23.94	23.67
2490.1	2020.1	23.66	23.81	23.48
2500.1	2030.1	23.93	23.89	23.55
2510.1	2040.1	24.02	24.11	23.76
2520.1	2050.1	24.25	24.35	24.08
2530.1	2060.1	24.16	24.25	23.99
2540.1	2070.1	24.20	24.26	23.96
2550.1	2080.1	24.24	24.26	23.96
2560.1	2090.1	24.47	24.50	24.19
2570.1	2100.1	24.41	24.35	23.96
2580.1	2110.1	24.60	24.46	24.00
2590.1	2120.1	24.76	24.56	24.00
2600.1	2130.1	25.35	25.14	24.54
2610.1	2140.1	25.52	25.28	24.64
2620.1	2150.1	26.15	25.90	25.20
2630.1	2160.1	26.75	26.54	25.82
2640.1	2170.1	27.55	27.48	26.74
2650.1	2180.1	28.32	28.38	27.66
2660.1	2190.1	29.24	29.46	28.73
2670.1	2200.1	29.55	29.86	29.14
2680.1	2210.1	29.80	30.21	29.54
2690.1	2220.1	30.03	30.67	30.17
2700.1	2230.1	30.09	30.89	30.50
2710.1	2240.1	30.06	31.10	31.03
2720.1	2250.1	29.95	31.16	31.36
2730.1	2260.1	29.93	31.45	32.17
2740.1	2270.1	29.78	31.38	32.37
2750.1	2280.1	29.77	31.69	33.11
2760.1	2290.1	29.76	31.78	33.61
2770.1	2300.1	29.61	31.86	34.35
2780.1	2310.1	29.29	31.55	34.53
2790.1	2320.1	28.89	31.02	34.30
2800.1	2330.1	28.39	30.49	34.07
2810.1	2340.1	27.94	29.92	33.47
2820.1	2350.1	27.53	29.19	32.48
2830.1	2360.1	27.04	28.64	31.69
2840.1	2370.1	26.51	27.81	30.30

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+15	+17	+19
2450.1	1980.1	1.38	1.39	1.45
2460.1	1990.1	1.38	1.40	1.47
2470.1	2000.1	1.38	1.41	1.47
2480.1	2010.1	1.38	1.41	1.48
2490.1	2020.1	1.38	1.42	1.50
2500.1	2030.1	1.38	1.43	1.52
2510.1	2040.1	1.41	1.47	1.55
2520.1	2050.1	1.43	1.49	1.58
2530.1	2060.1	1.46	1.52	1.61
2540.1	2070.1	1.48	1.55	1.64
2550.1	2080.1	1.49	1.57	1.65
2560.1	2090.1	1.50	1.57	1.66
2570.1	2100.1	1.50	1.57	1.66
2580.1	2110.1	1.50	1.58	1.67
2590.1	2120.1	1.52	1.60	1.69
2600.1	2130.1	1.54	1.61	1.71
2610.1	2140.1	1.55	1.63	1.72
2620.1	2150.1	1.57	1.65	1.73
2630.1	2160.1	1.58	1.65	1.74
2640.1	2170.1	1.58	1.65	1.73
2650.1	2180.1	1.58	1.64	1.72
2660.1	2190.1	1.58	1.64	1.72
2670.1	2200.1	1.59	1.66	1.73
2680.1	2210.1	1.61	1.67	1.75
2690.1	2220.1	1.61	1.68	1.76
2700.1	2230.1	1.62	1.69	1.77
2710.1	2240.1	1.64	1.71	1.79
2720.1	2250.1	1.66	1.72	1.81
2730.1	2260.1	1.67	1.73	1.81
2740.1	2270.1	1.67	1.74	1.81
2750.1	2280.1	1.67	1.73	1.81
2760.1	2290.1	1.67	1.74	1.81
2770.1	2300.1	1.67	1.74	1.81
2780.1	2310.1	1.67	1.74	1.82
2790.1	2320.1	1.68	1.74	1.82
2800.1	2330.1	1.69	1.75	1.83
2810.1	2340.1	1.71	1.77	1.85
2820.1	2350.1	1.73	1.78	1.86
2830.1	2360.1	1.74	1.79	1.86
2840.1	2370.1	1.75	1.79	1.86

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+15	+17	+19
1980.1	8.95	8.55	8.23
1990.1	8.23	7.87	7.53
2000.1	7.53	7.17	6.81
2010.1	6.83	6.46	6.13
2020.1	6.19	5.87	5.56
2030.1	5.54	5.28	5.04
2040.1	4.93	4.72	4.52
2050.1	4.36	4.17	4.01
2060.1	3.86	3.69	3.55
2070.1	3.42	3.28	3.16
2080.1	3.04	2.92	2.81
2090.1	2.70	2.59	2.50
2100.1	2.40	2.32	2.24
2110.1	2.15	2.09	2.04
2120.1	1.95	1.91	1.88
2130.1	1.79	1.77	1.77
2140.1	1.68	1.68	1.70
2150.1	1.64	1.66	1.71
2160.1	1.64	1.69	1.76
2170.1	1.70	1.76	1.84
2180.1	1.79	1.87	1.97
2190.1	1.92	2.02	2.14
2200.1	2.09	2.21	2.35
2210.1	2.32	2.45	2.61
2220.1	2.54	2.69	2.86
2230.1	2.79	2.95	3.13
2240.1	3.04	3.21	3.39
2250.1	3.31	3.49	3.69
2260.1	3.58	3.78	3.98
2270.1	3.86	4.08	4.31
2280.1	4.17	4.41	4.66
2290.1	4.47	4.73	5.00
2300.1	4.78	5.06	5.34
2310.1	5.07	5.36	5.65
2320.1	5.36	5.65	5.91
2330.1	5.63	5.89	6.13
2340.1	5.85	6.11	6.32
2350.1	6.07	6.32	6.51
2360.1	6.28	6.51	6.71
2370.1	6.44	6.68	6.89

IF (OUT) (MHz)	IF VSWR @LO=2230MHz (:1) @LO (dBm)		
	+15	+17	+19
70.0	3.00	2.95	2.92
90.0	2.29	2.30	2.33
110.0	1.88	1.93	2.00
130.0	1.61	1.67	1.76
150.0	1.44	1.53	1.63
170.0	1.35	1.45	1.57
190.0	1.36	1.47	1.60
210.0	1.33	1.43	1.55
230.0	1.35	1.44	1.55
250.0	1.42	1.50	1.59
270.0	1.45	1.52	1.61
290.0	1.53	1.59	1.67
310.0	1.58	1.61	1.67
330.0	1.70	1.73	1.79
350.0	1.74	1.76	1.80
370.0	1.78	1.79	1.83
390.0	1.84	1.85	1.87
410.0	1.92	1.91	1.92
430.0	2.05	2.04	2.04
450.0	2.02	2.00	1.99
470.0	2.08	2.06	2.05
490.0	2.10	2.06	2.04
510.0	2.20	2.16	2.13
530.0	2.26	2.21	2.17
550.0	2.25	2.19	2.16
570.0	2.27	2.20	2.15
590.0	2.31	2.25	2.19
610.0	2.36	2.29	2.23
630.0	2.30	2.22	2.16
650.0	2.31	2.22	2.15
670.0	2.30	2.20	2.11
690.0	2.37	2.27	2.19
710.0	2.32	2.21	2.12
730.0	2.34	2.23	2.13
750.0	2.31	2.18	2.07
770.0	2.33	2.20	2.08
790.0	2.35	2.22	2.10
810.0	2.27	2.14	2.02
830.0	2.29	2.15	2.02
850.0	2.23	2.08	1.95

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+0	2	13	19	20	26	26	33	45	54
1	-	18	+0	27	17	25	27	37	30	47	51	63
2	62	37	52	46	47	50	45	72	57	65	64	63
3	>90	>82	67	>82	72	71	66	72	73	76	76	>82
4	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
5	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
6	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
7	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
8	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
9	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
10	---	---	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

Test conditions:
RF IN: 2600 MHz; 0.00 dBm.
LO IN: 2130 MHz; +17.00 dBm
IF OUT: 470 MHz; -7.55 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	10	12	23	30	32	36	37	45	59	66
1	-	18	+0	26	18	26	28	38	31	48	56	64
2	42	27	42	36	38	41	36	63	49	57	58	55
3	68	62	47	61	51	50	46	50	54	56	56	70
4	>90	77	72	65	69	70	66	76	69	63	67	72
5	>90	>92	83	83	77	80	86	79	71	81	68	75
6	>90	>92	>92	86	>92	92	85	86	>92	84	92	80
7	>90	>92	>92	>92	>92	>92	>92	89	91	87	92	86
8	>90	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
9	>90	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
10	---	---	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 2600 MHz; 10.00 dBm.
LO IN: 2130 MHz; +17.00 dBm
IF OUT: 470 MHz; 2.37 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.