Frequency Mixer RMS-2MH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+10	+13	+16
5.0	35.0	7.41	6.87	6.60
10.0	40.0	7.27	6.71	6.43
50.4	80.4	7.33	6.82	6.57
90.7	120.7	7.33	6.81	6.58
131.0	161.0	7.27	6.79	6.61
171.3	201.3	7.23	6.80	6.62
211.5	241.5	7.20	6.80	6.65
251.8	281.8	7.23	6.87	6.69
292.1	322.1	7.25	6.88	6.70
332.4	362.4	7.30	6.95	6.78
372.7	402.7	7.37	6.97	6.77
413.0	443.0	7.36	7.04	6.80
453.3	483.3	7.44	7.07	6.87
493.6	523.6	7.44	7.01	6.78
533.9	563.9	7.60	7.13	6.80
574.2	604.2	7.68	7.26	6.94
614.4	644.4	7.71	7.36	7.08
654.7	684.7	7.80	7.43	7.17
695.0	725.0	7.81	7.38	7.07
735.3	765.3	7.85	7.29	6.97
775.6	805.6	8.05	7.28	6.93
815.9	845.9	8.45	7.42	7.02
856.2	886.2	8.74	7.71	7.13
896.5	926.5	8.90	8.00	7.31
916.6	946.6	8.97	8.18	7.50
956.9	986.9	9.08	8.42	7.78
977.1	1007.1	9.16	8.56	7.98
1017.3	1047.3	9.23	8.76	8.26
1037.5	1067.5	9.20	8.77	8.33
1077.8	1107.8	9.29	8.86	8.50
1097.9	1127.9	9.25	8.85	8.55
1138.2	1168.2	9.30	8.87	8.63
1158.4	1188.4	9.29	8.90	8.64
1198.7	1228.7	9.32	8.95	8.75
1218.8	1248.8	9.35	9.01	8.81
1259.1	1289.1	9.45	9.18	9.02
1279.2	1309.2	9.54	9.29	9.18
1339.7	1369.7	9.91	9.71	9.61
1380.0	1410.0	10.28	10.02	9.92
1400.1	1430.1	10.47	10.18	10.09

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+10	+13	+16
10.1	40.1	20.17	23.47	27.91
50.4	80.4	19.95	22.85	25.18
90.7	120.7	19.99	23.06	22.39
131.0	161.0	20.44	21.03	23.32
171.3	201.3	19.51	21.38	24.81
211.5	241.5	19.20	21.64	25.82
251.8	281.8	19.63	21.68	25.23
292.1	322.1	19.38	23.48	26.06
332.4	362.4	19.78	22.40	24.57
372.7	402.7	18.84	24.01	25.23
413.0	443.0	19.71	21.36	24.81
453.3	483.3	21.47	23.35	25.11
493.6	523.6	20.76	21.75	25.14
533.9	563.9	17.74	24.02	24.74
574.2	604.2	17.75	19.43	24.86
614.4	644.4	18.75	19.16	21.06
654.7	684.7	20.16	20.95	22.55
695.0	725.0	20.36	23.27	26.64
735.3	765.3	19.37	23.76	26.67
775.6	805.6	20.71	20.86	22.77
815.9	845.9	15.62	20.54	21.19
856.2	886.2	14.29	21.96	20.22
896.5	926.5	14.77	18.66	21.32
916.6	946.6	15.31	18.10	21.37
956.9	986.9	15.61	17.85	20.55
977.1	1007.1	15.58	17.37	19.35
1017.3	1047.3	15.70	16.62	18.06
1037.5	1067.5	15.63	16.23	17.96
1077.8	1107.8	16.40	17.28	20.43
1097.9	1127.9	17.34	19.13	22.73
1138.2	1168.2	21.07	21.55	22.52
1158.4	1188.4	20.94	20.47	22.51
1198.7	1228.7	17.25	19.37	22.47
1218.8	1248.8	16.58	19.26	21.86
1259.1	1289.1	15.99	19.76	21.67
1279.2	1309.2	16.11	20.53	22.71
1319.5	1349.5	16.70	20.60	22.88
1339.7	1369.7	16.76	21.19	23.43
1380.0	1410.0	16.90	19.90	22.14
1400.1	1430.1	17.09	19.76	20.84

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+9dBm (dB) @LO (dBm)		
		+10	+13	+16
10.1	40.1	0.78	0.59	0.48
50.4	80.4	0.68	0.50	0.40
90.7	120.7	0.64	0.50	0.40
131.0	161.0	0.65	0.49	0.35
171.3	201.3	0.68	0.44	0.37
211.5	241.5	0.70	0.48	0.36
251.8	281.8	0.68	0.46	0.37
292.1	322.1	0.67	0.47	0.37
332.4	362.4	0.65	0.45	0.36
372.7	402.7	0.65	0.51	0.43
413.0	443.0	0.70	0.51	0.44
453.3	483.3	0.77	0.54	0.43
493.6	523.6	0.75	0.62	0.51
533.9	563.9	0.79	0.70	0.63
574.2	604.2	0.87	0.70	0.66
614.4	644.4	0.95	0.74	0.68
654.7	684.7	1.02	0.78	0.70
695.0	725.0	1.25	0.98	0.88
735.3	765.3	1.29	1.10	0.98
775.6	805.6	1.31	1.22	1.05
815.9	845.9	1.05	1.22	1.07
856.2	886.2	0.86	1.07	1.05
896.5	926.5	0.83	0.95	1.02
916.6	946.6	0.77	0.82	0.95
956.9	986.9	0.72	0.71	0.83
977.1	1007.1	0.72	0.65	0.75
1017.3	1047.3	0.78	0.63	0.71
1037.5	1067.5	0.81	0.64	0.69
1077.8	1107.8	0.90	0.71	0.69
1097.9	1127.9	0.95	0.76	0.70
1138.2	1168.2	1.10	0.90	0.78
1158.4	1188.4	1.10	0.89	0.81
1198.7	1228.7	1.27	0.97	0.80
1218.8	1248.8	1.29	0.95	0.79
1259.1	1289.1	1.32	0.88	0.75
1279.2	1309.2	1.33	0.84	0.72
1319.5	1349.5	1.28	0.75	0.69
1339.7	1369.7	1.26	0.71	0.65
1380.0	1410.0	1.33	0.69	0.63
1400.1	1430.1	1.28	0.65	0.62

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=500.1MHz (dB)
		@LO (dBm)
		+13
490.0	10.1	7.05
477.7	22.4	7.02
465.4	34.7	6.98
453.1	47.0	6.97
440.8	59.3	7.00
428.5	71.6	6.94
416.2	83.9	6.92
403.8	96.3	6.88
391.5	108.6	6.85
379.2	120.9	6.80
366.9	133.2	6.78
354.6	145.5	6.76
342.3	157.8	6.77
330.0	170.1	6.77
317.7	182.4	6.78
305.4	194.7	6.77
293.1	207.0	6.75
280.8	219.3	6.75
268.5	231.6	6.77
256.2	243.9	6.78
243.8	256.3	6.78
231.5	268.6	6.80
219.2	280.9	6.79
206.9	293.2	6.81
194.6	305.5	6.80
182.3	317.8	6.80
170.0	330.1	6.82
157.7	342.4	6.85
145.4	354.7	6.86
133.1	367.0	6.90
120.8	379.3	6.89
108.5	391.6	6.88
96.2	403.9	6.89
83.8	416.3	6.89
71.5	428.6	6.94
59.2	440.9	6.99
46.9	453.2	7.00
34.6	465.5	7.02
22.3	477.8	7.05
10.0	490.1	7.21

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB)
		@LO (dBm)
		+13
10.0	20.1	6.76
30.0	40.1	6.53
50.0	60.1	6.58
70.0	80.1	6.58
90.0	100.1	6.60
110.0	120.1	6.58
130.0	140.1	6.54
150.0	160.1	6.59
170.0	180.1	6.62
190.0	200.1	6.63
210.0	220.1	6.62
230.0	240.1	6.63
250.0	260.1	6.69
270.0	280.1	6.73
290.0	300.1	6.73
310.0	320.1	6.75
330.0	340.1	6.79
350.0	360.1	6.80
370.0	380.1	6.85
390.0	400.1	6.88
430.0	440.1	6.94
450.0	460.1	7.00
490.0	500.1	7.01
510.0	520.1	7.00
550.0	560.1	7.12
570.0	580.1	7.18
610.0	620.1	7.21
630.0	640.1	7.26
670.0	680.1	7.23
690.0	700.1	7.19
730.0	740.1	7.16
750.0	760.1	7.11
790.0	800.1	7.09
810.0	820.1	7.11
850.0	860.1	7.24
870.0	880.1	7.31
910.0	920.1	7.44
930.0	940.1	7.51
970.0	980.1	7.64
990.0	1000.1	7.68

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1000.1MHz (dB)
		@LO (dBm)
		+13
990.0	10.1	8.24
970.0	30.1	8.17
950.0	50.1	8.12
930.0	70.1	8.11
910.0	90.1	8.07
890.0	110.1	8.02
870.0	130.1	7.96
850.0	150.1	7.96
830.0	170.1	7.95
810.0	190.1	7.89
790.0	210.1	7.87
770.0	230.1	7.82
750.0	250.1	7.76
730.0	270.1	7.81
710.0	290.1	7.79
690.0	310.1	7.77
670.0	330.1	7.74
650.0	350.1	7.76
630.0	370.1	7.72
610.0	390.1	7.69
570.0	430.1	7.67
550.0	450.1	7.70
510.0	490.1	7.63
490.0	510.1	7.58
450.0	550.1	7.57
430.0	570.1	7.61
390.0	610.1	7.64
370.0	630.1	7.70
330.0	670.1	7.70
310.0	690.1	7.69
270.0	730.1	7.59
250.0	750.1	7.54
210.0	790.1	7.47
190.0	810.1	7.49
150.0	850.1	7.69
130.0	870.1	7.80
90.0	910.1	8.04
70.0	930.1	8.20
30.0	970.1	8.48
10.0	990.1	8.78

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+10	+13	+16	+10	+13	+16
5.0	68.00	67.46	67.25	64.60	60.42	58.26
10.0	61.75	61.14	60.85	58.56	54.89	52.71
50.4	57.70	57.72	57.78	60.93	59.90	59.42
90.7	52.67	52.62	52.78	55.01	54.43	53.80
131.0	49.40	49.49	49.61	51.51	50.84	51.55
171.3	46.99	47.36	47.60	48.75	49.47	49.67
211.5	45.20	45.56	45.84	47.60	48.31	47.87
251.8	43.86	44.39	44.67	47.55	47.13	46.21
292.1	42.57	43.07	43.30	46.85	45.76	44.52
332.4	41.52	41.97	42.30	45.81	43.93	42.61
372.7	40.69	41.09	41.34	43.83	42.26	41.27
413.0	39.41	40.03	40.36	41.96	40.21	39.35
453.3	38.36	38.88	39.30	39.77	38.70	37.96
493.6	37.51	37.92	37.97	37.86	37.05	36.45
533.9	36.70	37.24	37.36	36.37	35.30	34.74
574.2	35.96	36.72	36.84	35.83	34.45	33.46
614.4	35.38	35.75	35.98	34.59	33.36	32.43
654.7	34.93	35.01	34.96	33.11	32.26	31.54
695.0	34.33	34.26	34.01	31.41	31.02	30.48
735.3	33.80	33.74	33.41	29.30	29.31	28.94
775.6	33.37	33.23	32.81	27.63	27.77	27.45
815.9	32.98	32.92	32.36	26.04	26.14	25.92
856.2	32.23	32.69	32.15	24.72	24.79	24.69
896.5	31.55	32.09	31.50	23.42	23.42	23.27
916.6	31.48	32.15	31.92	22.82	22.81	22.68
956.9	31.13	31.68	31.67	21.77	21.81	21.74
977.1	30.95	31.41	31.29	21.33	21.38	21.26
1017.3	30.90	31.45	31.66	20.18	20.43	20.44
1037.5	30.84	31.39	31.63	19.77	20.03	20.04
1077.8	30.81	31.46	31.70	19.03	19.31	19.32
1097.9	30.98	31.85	32.54	18.53	18.90	18.95
1138.2	31.09	32.47	33.67	17.70	18.34	18.37
1158.4	31.16	32.70	33.96	17.31	17.98	18.07
1198.7	32.00	34.46	36.32	16.42	17.26	17.35
1218.8	32.40	35.35	37.38	16.00	16.91	16.96
1259.1	34.27	38.96	40.58	15.21	16.13	16.12
1279.2	35.50	42.10	42.05	14.81	15.77	15.79
1339.7	38.47	50.56	39.24	13.57	14.56	14.62
1380.0	36.11	39.24	35.68	12.86	13.86	14.04
1400.1	34.72	36.61	34.09	12.49	13.48	13.68

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+10	+13	+16
10.1	40.1	53.40	52.07	51.88
50.4	80.4	40.33	40.52	40.38
90.7	120.7	35.76	36.06	36.16
131.0	161.0	33.13	33.44	33.58
171.3	201.3	31.45	31.81	32.02
211.5	241.5	30.32	30.70	30.95
251.8	281.8	29.52	29.97	30.31
292.1	322.1	29.08	29.63	29.98
332.4	362.4	28.73	29.33	29.74
372.7	402.7	28.48	29.16	29.64
413.0	443.0	28.22	28.83	29.51
453.3	483.3	28.16	28.84	29.45
493.6	523.6	28.19	28.93	29.62
533.9	563.9	27.23	27.89	28.17
574.2	604.2	25.44	25.79	25.89
614.4	644.4	23.29	23.35	23.41
654.7	684.7	21.53	21.41	21.36
695.0	725.0	20.23	20.06	20.02
735.3	765.3	19.16	18.92	18.86
775.6	805.6	18.48	18.20	18.10
815.9	845.9	17.95	17.76	17.64
856.2	886.2	17.40	17.36	17.31
896.5	926.5	16.94	17.00	17.04
916.6	946.6	16.69	16.79	16.88
956.9	986.9	16.32	16.44	16.61
977.1	1007.1	16.17	16.31	16.48
1017.3	1047.3	15.91	16.10	16.33
1037.5	1067.5	15.82	16.06	16.35
1077.8	1107.8	15.55	15.88	16.18
1097.9	1127.9	15.45	15.82	16.07
1138.2	1168.2	15.22	15.54	15.60
1158.4	1188.4	15.09	15.30	15.25
1198.7	1228.7	14.73	14.68	14.51
1218.8	1248.8	14.49	14.36	14.09
1259.1	1289.1	13.86	13.60	13.34
1279.2	1309.2	13.51	13.25	12.95
1319.5	1349.5	12.81	12.53	12.24
1339.7	1369.7	12.42	12.23	11.92
1380.0	1410.0	11.69	11.53	11.25
1400.1	1430.1	11.29	11.17	10.87

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+10	+13	+16
5.0	35.0	1.22	1.26	1.31
10.0	40.0	1.11	1.16	1.23
50.4	80.4	1.15	1.25	1.32
90.7	120.7	1.16	1.27	1.34
131.0	161.0	1.18	1.28	1.35
171.3	201.3	1.19	1.29	1.35
211.5	241.5	1.20	1.29	1.35
251.8	281.8	1.20	1.29	1.34
292.1	322.1	1.21	1.29	1.35
332.4	362.4	1.21	1.29	1.34
372.7	402.7	1.22	1.30	1.36
413.0	443.0	1.24	1.31	1.37
453.3	483.3	1.27	1.34	1.39
493.6	523.6	1.30	1.39	1.45
533.9	563.9	1.32	1.41	1.49
574.2	604.2	1.34	1.41	1.49
614.4	644.4	1.38	1.44	1.49
654.7	684.7	1.41	1.47	1.51
695.0	725.0	1.46	1.52	1.58
735.3	765.3	1.53	1.61	1.67
775.6	805.6	1.61	1.69	1.76
815.9	845.9	1.71	1.79	1.86
856.2	886.2	1.87	1.92	1.99
896.5	926.5	2.04	2.08	2.14
916.6	946.6	2.14	2.17	2.22
956.9	986.9	2.33	2.36	2.40
977.1	1007.1	2.43	2.47	2.50
1017.3	1047.3	2.61	2.66	2.69
1037.5	1067.5	2.71	2.77	2.81
1077.8	1107.8	2.88	2.95	3.00
1097.9	1127.9	2.97	3.04	3.09
1138.2	1168.2	3.16	3.22	3.27
1158.4	1188.4	3.24	3.31	3.35
1198.7	1228.7	3.43	3.50	3.54
1218.8	1248.8	3.54	3.60	3.62
1259.1	1289.1	3.70	3.75	3.77
1279.2	1309.2	3.77	3.83	3.85
1319.5	1349.5	3.89	3.93	3.94
1339.7	1369.7	3.93	3.97	3.98
1380.0	1410.0	3.97	4.01	4.01
1400.1	1430.1	3.99	4.02	4.02

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+10	+13	+16
5.0	1.43	2.23	3.52
10.0	1.34	2.14	3.44
50.4	1.66	2.52	3.70
90.7	1.60	2.39	3.44
131.0	1.61	2.44	3.54
171.3	1.61	2.41	3.48
211.5	1.61	2.42	3.49
251.8	1.65	2.48	3.58
292.1	1.65	2.46	3.51
332.4	1.71	2.56	3.62
372.7	1.74	2.56	3.60
413.0	1.80	2.62	3.66
453.3	1.86	2.68	3.71
493.6	1.90	2.71	3.70
533.9	1.99	2.80	3.78
574.2	2.03	2.84	3.81
614.4	2.10	2.92	3.90
654.7	2.17	2.95	3.91
695.0	2.23	2.99	3.91
735.3	2.33	3.05	3.95
775.6	2.42	3.12	3.97
815.9	2.56	3.27	4.12
856.2	2.66	3.40	4.24
896.5	2.72	3.50	4.33
916.6	2.78	3.56	4.41
956.9	2.86	3.62	4.47
977.1	2.88	3.64	4.47
1017.3	2.98	3.72	4.57
1037.5	3.03	3.76	4.60
1077.8	3.07	3.75	4.53
1097.9	3.09	3.75	4.52
1138.2	3.20	3.84	4.61
1158.4	3.22	3.83	4.55
1198.7	3.23	3.77	4.43
1218.8	3.29	3.81	4.46
1259.1	3.38	3.85	4.44
1279.2	3.40	3.82	4.39
1319.5	3.52	3.86	4.40
1339.7	3.62	3.94	4.45
1380.0	3.73	3.98	4.43
1400.1	3.80	4.01	4.44

IF (OUT) (MHz)	IF VSWR @LO=1000.1MHz (:1) @LO (dBm)		
	+10	+13	+16
5.0	1.70	1.38	1.18
10.0	1.70	1.38	1.18
30.1	2.92	2.45	2.01
50.1	2.53	2.15	1.74
70.1	2.54	2.16	1.74
90.1	2.66	2.25	1.83
110.1	2.74	2.31	1.87
130.1	2.73	2.31	1.88
150.1	2.61	2.21	1.81
170.1	2.56	2.17	1.78
190.1	2.66	2.25	1.83
210.1	2.72	2.30	1.87
230.1	2.63	2.22	1.80
250.1	2.56	2.17	1.76
270.1	2.55	2.17	1.76
290.1	2.57	2.19	1.79
310.1	2.55	2.17	1.77
330.1	2.54	2.16	1.77
350.1	2.50	2.14	1.75
370.1	2.47	2.11	1.74
390.1	2.46	2.10	1.74
430.1	2.39	2.05	1.73
450.1	2.36	2.03	1.69
490.1	2.33	2.01	1.69
510.1	2.28	1.97	1.66
550.1	2.24	1.95	1.66
570.1	2.22	1.94	1.66
610.1	2.12	1.86	1.60
630.1	2.10	1.86	1.62
670.1	2.08	1.84	1.62
690.1	2.03	1.80	1.57
730.1	1.92	1.73	1.55
750.1	1.94	1.74	1.57
790.1	1.87	1.68	1.52
810.1	1.79	1.62	1.48
850.1	1.79	1.64	1.53
870.1	1.78	1.63	1.51
910.1	1.65	1.52	1.43
930.1	1.63	1.51	1.45
970.1	1.66	1.54	1.46
990.1	1.62	1.51	1.44

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	7	23	11	33	16	35	18	36	36	47
1	-	19	+0	31	13	33	28	41	43	39	48	44
2	>100	63	47	72	50	71	50	73	55	64	55	64
3	>100	69	73	70	61	69	59	71	68	75	64	>87
4	>100	>87	>87	87	>87	>87	80	>87	83	>87	>87	>87
5	>100	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87
6	>100	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87
7	>100	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87
8	>100	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87
9	>100	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87
10	>100	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87	>87
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 500.1 MHz; -6.00 dBm.
LO IN: 530.01 MHz; +13.00 dBm
IF OUT: 29.91 MHz; -13.08 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	16	34	23	45	28	46	32	50	51	74
1	-	20	+0	29	13	36	28	47	42	44	52	51
2	81	60	39	55	39	68	41	59	48	62	45	63
3	>100	49	58	55	47	55	43	54	64	57	51	57
4	>100	77	69	69	66	69	66	75	62	85	72	69
5	>100	81	75	71	55	64	54	62	52	64	60	74
6	>100	95	88	93	77	83	70	76	64	75	65	78
7	>100	80	86	89	80	82	74	82	72	76	72	83
8	>100	>97	93	>97	>97	>97	91	>97	84	93	79	90
9	>100	>97	96	>97	>97	>97	89	94	85	88	86	88
10	>100	>97	>97	>97	>97	>97	>97	>97	96	>97	91	>97
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 500.1 MHz; 4.00 dBm.
LO IN: 530.01 MHz; +13.00 dBm
IF OUT: 29.91 MHz; -3.09 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.