Frequency Mixer RMS-1H+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+14	+17	+20
2.0	32.0	7.57	6.78	6.41
4.0	34.0	7.39	6.60	6.22
5.0	35.0	7.37	6.57	6.17
10.0	40.0	7.34	6.55	6.16
49.8	79.8	6.97	6.37	6.07
89.5	119.5	7.02	6.32	6.02
129.2	159.2	6.91	6.28	6.01
168.9	198.9	6.94	6.29	6.02
248.3	278.3	6.97	6.35	6.11
287.9	317.9	6.76	6.27	6.07
327.6	357.6	6.86	6.37	6.18
367.3	397.3	6.86	6.36	6.15
407.0	437.0	6.83	6.39	6.14
446.7	476.7	7.00	6.57	6.30
486.4	516.4	7.00	6.58	6.32
526.1	556.1	7.14	6.68	6.36
565.8	595.8	7.17	6.63	6.30
585.6	615.6	7.27	6.69	6.35
625.3	655.3	7.31	6.72	6.41
645.2	675.2	7.42	6.82	6.47
684.9	714.9	7.49	6.93	6.56
744.4	774.4	7.75	7.24	6.87
764.3	794.3	7.80	7.30	6.92
803.9	833.9	7.98	7.49	7.10
823.8	853.8	8.05	7.54	7.13
863.5	893.5	8.22	7.61	7.15
883.3	913.3	8.22	7.59	7.12
923.0	953.0	8.36	7.60	7.11
942.9	972.9	8.40	7.61	7.12
982.6	1012.6	8.47	7.64	7.18
1002.4	1032.4	8.58	7.76	7.26
1042.1	1072.1	8.70	7.84	7.34
1061.9	1091.9	8.99	8.02	7.49
1101.6	1131.6	9.29	8.24	7.66
1161.2	1191.2	10.04	8.66	8.00
1181.0	1211.0	10.32	8.84	8.11
1220.7	1250.7	10.81	9.19	8.39
1240.6	1270.6	11.01	9.35	8.53
1280.3	1310.3	11.50	9.86	9.04
1300.1	1330.1	11.71	10.09	9.24

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+14	+17	+20
10.1	40.1	25.82	29.54	31.61
49.8	79.8	24.57	27.51	29.32
89.5	119.5	24.25	27.38	29.43
129.2	159.2	25.59	27.94	28.13
168.9	198.9	25.11	26.32	27.52
208.6	238.6	26.02	26.57	30.81
248.3	278.3	23.11	26.16	31.23
287.9	317.9	23.94	28.40	28.61
327.6	357.6	23.85	28.77	28.02
367.3	397.3	24.71	28.39	29.58
407.0	437.0	26.32	25.80	26.23
446.7	476.7	24.71	23.94	22.71
486.4	516.4	24.55	25.34	24.42
526.1	556.1	24.00	28.63	27.08
565.8	595.8	24.70	33.83	29.07
585.6	615.6	26.50	30.17	30.51
625.3	655.3	22.85	31.89	32.29
645.2	675.2	21.55	28.08	30.53
684.9	714.9	19.24	21.26	26.51
704.7	734.7	18.61	19.16	22.98
744.4	774.4	18.26	17.76	19.65
764.3	794.3	18.14	17.47	18.73
803.9	833.9	18.03	17.52	18.29
823.8	853.8	18.28	17.98	18.61
863.5	893.5	18.27	18.66	19.92
883.3	913.3	18.67	19.11	20.46
923.0	953.0	18.54	19.62	21.77
942.9	972.9	18.58	19.86	22.27
982.6	1012.6	19.45	21.43	23.92
1002.4	1032.4	19.94	22.32	26.03
1042.1	1072.1	21.59	25.73	30.55
1061.9	1091.9	21.88	26.67	29.47
1101.6	1131.6	21.54	23.37	25.11
1121.5	1151.5	20.83	22.02	24.07
1161.2	1191.2	18.66	21.28	23.46
1181.0	1211.0	17.90	21.14	23.65
1220.7	1250.7	17.40	22.04	26.08
1240.6	1270.6	17.32	23.18	26.63
1280.3	1310.3	17.65	25.53	26.69
1300.1	1330.1	17.81	25.42	24.58

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+14dBm (dB) @LO (dBm)		
		+14	+17	+20
10.1	40.1	0.77	0.39	0.21
49.8	79.8	0.64	0.28	0.16
89.5	119.5	0.62	0.25	0.14
129.2	159.2	0.59	0.30	0.16
168.9	198.9	0.60	0.28	0.16
208.6	238.6	0.74	0.32	0.17
248.3	278.3	0.63	0.32	0.17
287.9	317.9	0.77	0.33	0.20
327.6	357.6	0.73	0.28	0.15
367.3	397.3	0.74	0.33	0.20
407.0	437.0	0.71	0.32	0.23
446.7	476.7	0.63	0.27	0.18
486.4	516.4	0.75	0.29	0.21
526.1	556.1	0.82	0.33	0.24
565.8	595.8	0.90	0.47	0.32
585.6	615.6	0.77	0.46	0.31
625.3	655.3	0.92	0.55	0.39
645.2	675.2	0.82	0.52	0.38
684.9	714.9	0.77	0.52	0.38
704.7	734.7	0.82	0.53	0.41
744.4	774.4	0.85	0.55	0.43
764.3	794.3	0.88	0.57	0.46
803.9	833.9	0.86	0.58	0.44
823.8	853.8	0.90	0.61	0.49
863.5	893.5	0.85	0.62	0.49
883.3	913.3	0.97	0.68	0.55
923.0	953.0	0.94	0.70	0.57
942.9	972.9	0.99	0.75	0.62
982.6	1012.6	1.02	0.78	0.64
1002.4	1032.4	1.00	0.79	0.67
1042.1	1072.1	1.05	0.85	0.76
1061.9	1091.9	0.95	0.85	0.74
1101.6	1131.6	0.91	0.88	0.82
1121.5	1151.5	0.83	0.87	0.81
1161.2	1191.2	0.66	0.92	0.84
1181.0	1211.0	0.56	0.89	0.88
1220.7	1250.7	0.50	0.93	0.92
1240.6	1270.6	0.48	0.91	0.94
1280.3	1310.3	0.50	0.86	0.90
1300.1	1330.1	0.58	0.89	0.91

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=250.1MHz (dB) @LO (dBm) +17
240.0	10.1	6.37
234.1	16.0	6.39
228.2	21.9	6.25
222.3	27.8	6.32
216.4	33.7	6.29
210.5	39.6	6.25
204.6	45.5	6.34
198.7	51.4	6.21
192.8	57.3	6.23
186.9	63.2	6.28
181.0	69.1	6.23
175.1	75.0	6.36
169.2	80.9	6.27
163.3	86.8	6.24
157.4	92.7	6.32
151.5	98.6	6.20
145.6	104.5	6.26
139.7	110.4	6.26
133.8	116.3	6.15
127.9	122.2	6.19
122.1	128.0	6.11
116.2	133.9	6.09
110.3	139.8	6.23
104.4	145.7	6.15
98.5	151.6	6.19
92.6	157.5	6.16
86.7	163.4	6.12
80.8	169.3	6.20
74.9	175.2	6.19
69.0	181.1	6.18
63.1	187.0	6.18
57.2	192.9	6.11
51.3	198.8	6.15
45.4	204.7	6.18
39.5	210.6	6.21
33.6	216.5	6.24
27.7	222.4	6.18
21.8	228.3	6.23
15.9	234.2	6.25
10.0	240.1	6.24

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB) @LO (dBm) +17
10.0	20.1	6.16
22.3	32.4	6.15
34.6	44.7	6.16
46.9	57.0	6.14
59.2	69.3	6.05
71.5	81.6	6.14
83.8	93.9	6.23
96.2	106.3	6.16
108.5	118.6	6.15
120.8	130.9	6.11
133.1	143.2	6.08
145.4	155.5	6.22
157.7	167.8	6.26
170.0	180.1	6.20
182.3	192.4	6.22
194.6	204.7	6.24
206.9	217.0	6.25
219.2	229.3	6.29
231.5	241.6	6.25
243.8	253.9	6.24
256.2	266.3	6.36
268.5	278.6	6.40
280.8	290.9	6.38
293.1	303.2	6.39
305.4	315.5	6.34
317.7	327.8	6.42
330.0	340.1	6.50
342.3	352.4	6.43
354.6	364.7	6.43
366.9	377.0	6.46
379.2	389.3	6.48
391.5	401.6	6.55
403.8	413.9	6.47
416.2	426.3	6.45
428.5	438.6	6.55
440.8	450.9	6.61
453.1	463.2	6.68
465.4	475.5	6.66
477.7	487.8	6.56
490.0	500.1	6.59

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=500.1MHz (dB) @LO (dBm) +17
490.0	10.1	6.51
477.7	22.4	6.46
465.4	34.7	6.42
453.1	47.0	6.48
440.8	59.3	6.50
428.5	71.6	6.36
416.2	83.9	6.34
403.8	96.3	6.32
391.5	108.6	6.28
379.2	120.9	6.29
366.9	133.2	6.18
354.6	145.5	6.12
342.3	157.8	6.16
330.0	170.1	6.16
317.7	182.4	6.13
305.4	194.7	6.09
293.1	207.0	6.03
280.8	219.3	6.02
268.5	231.6	6.08
256.2	243.9	6.06
243.8	256.3	6.06
231.5	268.6	6.10
219.2	280.9	6.07
206.9	293.2	6.12
194.6	305.5	6.14
182.3	317.8	6.09
170.0	330.1	6.14
157.7	342.4	6.17
145.4	354.7	6.18
133.1	367.0	6.24
120.8	379.3	6.23
108.5	391.6	6.22
96.2	403.9	6.30
83.8	416.3	6.30
71.5	428.6	6.34
59.2	440.9	6.42
46.9	453.2	6.41
34.6	465.5	6.52
22.3	477.8	6.61
10.0	490.1	6.57

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+14	+17	+20	+14	+17	+20
2.0	81.98	79.29	82.48	71.18	69.19	68.76
4.0	72.53	72.35	71.57	69.53	63.39	60.08
5.0	71.15	71.51	71.45	68.75	62.98	59.64
10.0	65.40	65.84	66.21	67.50	61.30	57.95
49.8	59.63	60.44	61.10	64.64	53.43	49.58
89.5	54.21	55.17	55.57	63.46	50.41	46.21
129.2	50.68	51.05	51.85	63.97	47.34	42.96
168.9	48.02	48.44	49.17	56.12	45.54	41.12
248.3	44.06	44.78	45.31	49.40	43.58	39.23
287.9	43.06	43.69	43.79	44.22	42.24	38.50
327.6	41.83	42.66	42.90	41.26	40.06	37.41
367.3	40.85	41.23	41.54	38.13	37.36	35.71
407.0	40.21	40.21	40.27	36.00	36.17	34.59
446.7	39.59	39.47	39.34	33.50	34.42	33.77
486.4	39.10	39.02	38.80	31.32	32.22	32.58
526.1	38.32	38.41	38.42	30.39	30.82	30.93
565.8	37.85	38.22	38.27	28.86	29.13	29.23
585.6	37.56	38.15	38.41	28.57	28.74	28.77
625.3	37.01	37.58	37.51	27.10	27.74	27.70
645.2	36.74	37.54	37.50	26.43	27.42	27.50
684.9	35.67	36.75	36.96	25.32	26.66	27.29
744.4	34.19	35.21	36.06	24.12	25.45	26.51
764.3	33.85	34.63	35.60	23.93	25.20	26.37
803.9	33.54	34.19	35.24	23.48	24.83	25.96
823.8	33.55	34.19	35.15	23.28	24.58	25.58
863.5	33.61	34.56	36.18	22.88	24.16	25.19
883.3	33.63	34.72	36.41	22.75	24.06	24.92
923.0	34.35	36.18	38.90	22.19	23.18	23.80
942.9	34.79	36.98	39.75	22.08	23.00	23.45
982.6	35.79	37.57	38.81	21.71	22.37	22.60
1002.4	35.73	37.05	37.90	21.71	22.30	22.48
1042.1	35.43	35.50	35.67	21.42	22.21	22.33
1061.9	35.11	34.73	34.70	21.45	22.55	22.64
1101.6	34.06	33.07	32.90	21.00	22.44	22.73
1161.2	32.51	31.29	30.94	20.02	22.14	23.24
1181.0	31.78	31.00	30.61	19.66	22.02	23.63
1220.7	30.38	29.99	29.80	18.81	21.24	23.42
1240.6	29.75	29.73	29.73	18.57	21.06	23.50
1280.3	28.37	28.91	29.20	17.98	20.50	23.17
1300.1	27.46	28.27	28.69	17.79	20.34	23.08

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+14	+17	+20
10.1	40.1	47.84	45.43	45.33
49.8	79.8	35.33	35.83	35.63
89.5	119.5	30.93	31.21	31.19
129.2	159.2	28.26	28.60	28.79
168.9	198.9	26.49	26.89	27.16
208.6	238.6	25.35	25.91	26.13
248.3	278.3	24.51	24.88	25.18
287.9	317.9	24.33	24.78	24.98
327.6	357.6	23.95	24.82	25.29
367.3	397.3	23.51	24.57	25.39
407.0	437.0	23.66	24.56	25.55
446.7	476.7	24.08	24.63	25.29
486.4	516.4	24.85	25.24	25.53
526.1	556.1	24.75	25.29	25.54
565.8	595.8	23.05	23.75	24.56
585.6	615.6	21.87	22.39	23.05
625.3	655.3	19.87	20.10	20.48
645.2	675.2	19.03	19.22	19.42
684.9	714.9	17.47	17.56	17.62
704.7	734.7	16.90	16.96	17.07
744.4	774.4	15.92	15.83	15.85
764.3	794.3	15.50	15.34	15.25
803.9	833.9	14.95	14.70	14.45
823.8	853.8	14.70	14.42	14.14
863.5	893.5	14.16	13.78	13.39
883.3	913.3	13.80	13.40	13.06
923.0	953.0	13.18	12.87	12.68
942.9	972.9	12.94	12.60	12.49
982.6	1012.6	12.51	12.37	12.35
1002.4	1032.4	12.33	12.24	12.30
1042.1	1072.1	12.08	12.13	12.28
1061.9	1091.9	12.02	12.08	12.28
1101.6	1131.6	11.82	12.00	12.25
1121.5	1151.5	11.69	11.95	12.25
1161.2	1191.2	11.44	11.82	12.17
1181.0	1211.0	11.26	11.71	12.06
1220.7	1250.7	10.89	11.45	11.73
1240.6	1270.6	10.67	11.22	11.46
1280.3	1310.3	10.27	10.72	10.88
1300.1	1330.1	10.04	10.48	10.52

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+14	+17	+20
2.0	32.0	1.31	1.33	1.37
5.0	35.0	1.17	1.20	1.25
10.0	40.0	1.11	1.15	1.20
49.8	79.8	1.27	1.10	1.02
89.5	119.5	1.27	1.11	1.02
129.2	159.2	1.24	1.09	1.01
168.9	198.9	1.23	1.08	1.01
208.6	238.6	1.20	1.05	1.04
248.3	278.3	1.22	1.07	1.03
287.9	317.9	1.17	1.03	1.07
327.6	357.6	1.15	1.02	1.08
367.3	397.3	1.14	1.04	1.12
407.0	437.0	1.12	1.06	1.15
446.7	476.7	1.12	1.07	1.13
486.4	516.4	1.11	1.11	1.17
526.1	556.1	1.14	1.17	1.23
565.8	595.8	1.16	1.23	1.32
585.6	615.6	1.18	1.26	1.35
625.3	655.3	1.21	1.31	1.41
645.2	675.2	1.23	1.31	1.43
684.9	714.9	1.26	1.33	1.46
704.7	734.7	1.29	1.33	1.45
744.4	774.4	1.31	1.34	1.43
764.3	794.3	1.33	1.35	1.43
803.9	833.9	1.35	1.36	1.42
823.8	853.8	1.36	1.36	1.42
863.5	893.5	1.40	1.40	1.46
883.3	913.3	1.42	1.43	1.49
923.0	953.0	1.50	1.51	1.56
942.9	972.9	1.55	1.57	1.62
982.6	1012.6	1.69	1.70	1.75
1002.4	1032.4	1.77	1.78	1.83
1042.1	1072.1	1.97	1.97	2.01
1061.9	1091.9	2.10	2.08	2.11
1101.6	1131.6	2.39	2.34	2.34
1121.5	1151.5	2.57	2.49	2.48
1161.2	1191.2	2.91	2.78	2.73
1181.0	1211.0	3.09	2.93	2.86
1220.7	1250.7	3.42	3.22	3.09
1240.6	1270.6	3.56	3.34	3.19
1280.3	1310.3	3.83	3.60	3.42
1300.1	1330.1	3.93	3.71	3.52

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+14	+17	+20
2.0	1.22	1.77	2.58
5.0	1.15	1.75	2.56
10.0	1.22	1.82	2.67
49.8	1.08	1.53	2.32
89.5	1.08	1.46	2.12
129.2	1.09	1.50	2.26
168.9	1.09	1.48	2.17
208.6	1.12	1.49	2.20
248.3	1.10	1.53	2.25
287.9	1.15	1.52	2.19
327.6	1.16	1.57	2.29
367.3	1.22	1.59	2.25
407.0	1.23	1.61	2.29
446.7	1.27	1.66	2.34
486.4	1.32	1.66	2.32
526.1	1.34	1.69	2.36
565.8	1.43	1.73	2.34
585.6	1.44	1.75	2.36
625.3	1.51	1.83	2.46
645.2	1.52	1.86	2.47
684.9	1.56	1.90	2.50
704.7	1.57	1.94	2.56
744.4	1.59	1.96	2.57
764.3	1.60	1.97	2.59
803.9	1.61	1.98	2.61
823.8	1.62	1.99	2.61
863.5	1.62	1.95	2.55
883.3	1.63	1.94	2.55
923.0	1.64	1.92	2.52
942.9	1.65	1.92	2.51
982.6	1.72	1.95	2.53
1002.4	1.76	1.98	2.56
1042.1	1.86	2.04	2.59
1061.9	1.92	2.07	2.61
1101.6	2.05	2.15	2.66
1121.5	2.12	2.18	2.67
1161.2	2.26	2.27	2.73
1181.0	2.32	2.30	2.75
1220.7	2.47	2.36	2.78
1240.6	2.55	2.41	2.81
1280.3	2.68	2.49	2.86
1300.1	2.79	2.53	2.87

IF (OUT) (MHz)	IF VSWR @LO=500.5MHz (:1) @LO (dBm)		
	+14	+17	+20
2.0	1.02	1.07	1.13
5.0	1.01	1.06	1.12
10.0	1.02	1.04	1.10
22.3	2.07	1.85	1.64
34.5	2.00	1.78	1.58
46.8	2.04	1.80	1.62
59.0	2.07	1.81	1.65
71.3	2.03	1.78	1.63
83.5	2.06	1.82	1.64
95.8	2.08	1.83	1.64
108.0	2.12	1.87	1.67
120.3	2.05	1.81	1.61
132.5	2.05	1.82	1.63
144.8	2.03	1.78	1.61
157.0	2.05	1.79	1.62
169.3	2.05	1.79	1.63
181.5	2.09	1.83	1.65
193.8	2.14	1.88	1.68
206.0	2.09	1.85	1.65
218.3	2.10	1.84	1.64
230.5	2.06	1.80	1.61
242.8	2.05	1.79	1.61
255.0	2.05	1.78	1.62
267.3	2.06	1.80	1.63
279.5	2.11	1.84	1.66
291.8	2.10	1.84	1.64
304.0	2.10	1.83	1.63
316.3	2.12	1.85	1.64
328.5	2.06	1.80	1.60
340.8	2.06	1.80	1.61
353.0	2.06	1.80	1.62
365.3	2.10	1.83	1.64
377.5	2.10	1.83	1.65
389.8	2.11	1.84	1.65
402.0	2.14	1.88	1.68
414.3	2.15	1.89	1.68
426.5	2.14	1.87	1.66
438.8	2.13	1.86	1.66
451.0	2.07	1.81	1.62
463.3	2.08	1.82	1.64
487.8	2.17	1.91	1.71
500.0	2.06	1.83	1.66

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	18	24	11	28	17	29	24	49	36	42
1	-	19	+0	30	15	35	24	39	30	43	27	50
2	88	67	45	63	45	63	45	61	47	60	58	62
3	>100	61	57	65	52	67	48	70	48	63	45	60
4	>100	80	72	79	73	81	78	90	72	88	70	74
5	>100	81	77	84	73	87	70	83	70	85	70	92
6	>100	>93	>93	>93	>93	>93	>93	>93	89	>93	86	>93
7	>100	>93	>93	>93	>93	>93	>93	90	89	>93	>93	>93
8	>100	>93	>93	>93	>93	>93	>93	>93	88	>93	>93	>93
9	>100	>93	>93	>93	>93	>93	>93	>93	>93	74	>93	>93
10	>100	>93	>93	>93	>93	>93	>93	>93	>93	>93	82	>93
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 250.1 MHz; -1.00 dBm.
LO IN: 280.01 MHz; +17.00 dBm
IF OUT: 29.91 MHz; -7.34 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	25	35	24	42	32	49	43	58	53	62
1	-	19	+0	31	14	38	23	37	34	47	38	60
2	76	58	42	69	40	55	39	52	40	52	45	69
3	>100	47	46	51	61	59	43	52	48	73	39	54
4	>100	71	57	72	56	68	58	65	55	66	57	101
5	>100	62	73	67	58	65	50	60	48	62	47	64
6	>100	74	64	89	64	77	67	80	68	76	64	93
7	>100	70	80	82	75	71	65	71	61	71	60	71
8	>100	79	76	79	76	84	73	87	75	92	73	86
9	>100	84	73	74	72	79	71	82	69	81	68	80
10	>100	98	89	86	89	86	85	87	82	98	83	94
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 250.1 MHz; 9.00 dBm.
LO IN: 280.01 MHz; +17.00 dBm
IF OUT: 29.91 MHz; 2.52 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.