Frequency Mixer HJK-ED9346/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=73MHz (dB) @LO (dBm)		
		+14	+17	+20
314.1	241.1	13.20	11.01	9.44
394.1	321.1	11.13	9.30	8.21
474.1	401.1	9.30	8.21	7.63
554.1	481.1	8.33	7.66	7.31
634.1	561.1	7.96	7.64	7.58
714.1	641.1	7.56	7.42	7.45
794.1	721.1	7.42	7.30	7.48
874.1	801.1	7.52	7.42	7.55
954.1	881.1	7.81	7.66	7.58
1034.1	961.1	8.14	7.86	7.75
1114.1	1041.1	8.64	8.17	7.96
1174.1	1101.1	9.08	8.55	8.18
1254.1	1181.1	9.37	8.83	8.39
1314.1	1241.1	9.46	8.90	8.46
1394.1	1321.1	9.77	9.11	8.65
1454.1	1381.1	9.98	9.27	8.82
1534.1	1461.1	10.08	9.34	8.90
1594.1	1521.1	10.21	9.41	8.95
1674.1	1601.1	10.49	9.56	9.06
1734.1	1661.1	10.55	9.62	9.15
1814.1	1741.1	10.54	9.65	9.22
1874.1	1801.1	10.61	9.69	9.26
1954.1	1881.1	10.83	9.83	9.39
2014.1	1941.1	10.86	9.91	9.49
2094.1	2021.1	10.86	9.95	9.53
2154.1	2081.1	11.01	10.06	9.59
2234.1	2161.1	11.18	10.24	9.77
2294.1	2221.1	10.98	10.17	9.81
2374.1	2301.1	10.83	10.11	9.79
2434.1	2361.1	10.91	10.15	9.82
2514.1	2441.1	10.87	10.16	9.85
2574.1	2501.1	10.63	10.11	9.87
2654.1	2581.1	10.55	10.08	9.89
2714.1	2641.1	10.58	10.08	9.89
2794.1	2721.1	10.51	10.07	9.91
2854.1	2781.1	10.50	10.13	10.01
2934.1	2861.1	10.56	10.24	10.13
2994.1	2921.1	10.60	10.29	10.17
3074.1	3001.1	10.67	10.37	10.23
3134.1	3061.1	10.83	10.54	10.39

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+14	+17	+20
314.1	241.1	10.01	13.75	18.77
394.1	321.1	14.47	19.56	21.91
474.1	401.1	18.26	20.90	23.51
554.1	481.1	16.55	18.47	20.17
634.1	561.1	19.77	22.92	25.67
714.1	641.1	25.40	28.06	31.68
794.1	721.1	27.98	30.09	35.46
874.1	801.1	28.08	29.44	31.89
954.1	881.1	27.62	29.79	31.50
1034.1	961.1	24.22	27.68	30.05
1114.1	1041.1	20.85	24.99	29.46
1174.1	1101.1	20.28	24.55	29.50
1254.1	1181.1	22.52	26.82	29.86
1314.1	1241.1	23.09	27.44	28.54
1394.1	1321.1	22.90	26.91	29.15
1454.1	1381.1	23.00	27.09	29.60
1534.1	1461.1	23.11	26.52	29.55
1594.1	1521.1	24.05	26.73	28.91
1674.1	1601.1	23.74	25.68	27.31
1734.1	1661.1	22.82	24.91	26.61
1814.1	1741.1	21.66	23.86	25.73
1874.1	1801.1	21.03	23.07	25.17
1954.1	1881.1	20.91	22.61	25.13
2014.1	1941.1	20.79	22.72	25.68
2094.1	2021.1	20.69	22.87	26.71
2154.1	2081.1	20.81	22.66	26.57
2234.1	2161.1	21.42	23.23	26.34
2294.1	2221.1	21.90	24.46	27.89
2374.1	2301.1	22.28	25.23	29.05
2434.1	2361.1	22.21	24.72	28.13
2514.1	2441.1	22.48	24.86	28.39
2574.1	2501.1	22.88	25.40	29.65
2654.1	2581.1	22.93	25.57	30.00
2714.1	2641.1	22.81	25.67	29.42
2794.1	2721.1	22.95	26.26	30.51
2854.1	2781.1	23.05	26.71	31.52
2934.1	2861.1	23.23	27.10	31.57
2994.1	2921.1	23.23	27.32	31.45
3074.1	3001.1	23.69	27.81	30.79
3134.1	3061.1	23.62	27.71	30.60

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+14dBm (dB) @LO (dBm)		
		+14	+17	+20
314.1	241.1	1.26	1.24	0.99
394.1	321.1	1.51	1.24	0.75
474.1	401.1	2.04	1.03	0.48
554.1	481.1	1.58	0.88	0.49
634.1	561.1	0.98	0.62	0.40
714.1	641.1	0.53	0.30	0.25
794.1	721.1	0.25	0.14	0.13
874.1	801.1	0.29	0.04	0.16
954.1	881.1	0.42	0.10	0.19
1034.1	961.1	0.62	0.29	0.23
1114.1	1041.1	0.61	0.42	0.24
1174.1	1101.1	0.55	0.30	0.27
1254.1	1181.1	0.57	0.26	0.31
1314.1	1241.1	0.59	0.29	0.34
1394.1	1321.1	0.59	0.30	0.35
1454.1	1381.1	0.58	0.31	0.35
1534.1	1461.1	0.62	0.34	0.34
1594.1	1521.1	0.61	0.36	0.34
1674.1	1601.1	0.57	0.44	0.38
1734.1	1661.1	0.52	0.45	0.37
1814.1	1741.1	0.50	0.49	0.36
1874.1	1801.1	0.43	0.49	0.38
1954.1	1881.1	0.27	0.43	0.36
2014.1	1941.1	0.26	0.40	0.33
2094.1	2021.1	0.26	0.35	0.28
2154.1	2081.1	0.22	0.35	0.30
2234.1	2161.1	0.22	0.32	0.28
2294.1	2221.1	0.36	0.30	0.25
2374.1	2301.1	0.45	0.29	0.25
2434.1	2361.1	0.45	0.32	0.27
2514.1	2441.1	0.49	0.33	0.25
2574.1	2501.1	0.55	0.29	0.22
2654.1	2581.1	0.55	0.25	0.19
2714.1	2641.1	0.54	0.25	0.19
2794.1	2721.1	0.48	0.18	0.17
2854.1	2781.1	0.43	0.12	0.13
2934.1	2861.1	0.39	0.08	0.11
2994.1	2921.1	0.36	0.07	0.10
3074.1	3001.1	0.33	0.04	0.10
3134.1	3061.1	0.32	0.04	0.10

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=836.5MHz (dB) @LO (dBm) +17
510.0	326.5	10.58
486.2	350.3	10.20
462.4	374.1	9.81
438.6	397.9	9.21
414.8	421.7	8.82
391.0	445.5	8.67
367.1	469.4	8.57
343.3	493.2	8.29
319.5	517.0	8.10
295.7	540.8	8.10
271.9	564.6	8.01
248.1	588.4	7.85
224.3	612.2	7.69
200.5	636.0	7.67
176.7	659.8	7.51
152.9	683.6	7.46
129.0	707.5	7.41
105.2	731.3	7.37
81.4	755.1	7.34
57.6	778.9	7.37
33.8	802.7	7.35
10.0	826.5	7.74
38.1	874.6	7.47
94.3	930.8	7.57
150.5	987.0	7.67
206.7	1043.2	7.89
262.9	1099.4	8.30
347.1	1183.6	8.63
403.3	1239.8	8.75
487.6	1324.1	9.05
543.8	1380.3	9.25
628.1	1464.6	9.45
684.3	1520.8	9.60
768.6	1605.1	9.84
824.8	1661.3	9.83
909.0	1745.5	9.95
965.2	1801.7	10.12
1049.5	1886.0	10.22
1105.7	1942.2	10.11
1190.0	2026.5	10.15

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=803.9MHz (dB) @LO (dBm) +17
10.1	814.0	7.59
30.5	834.4	7.37
50.8	854.7	7.38
71.2	875.1	7.46
111.9	915.8	7.52
132.2	936.1	7.57
172.9	976.8	7.63
193.3	997.2	7.68
234.0	1037.9	7.84
254.3	1058.2	8.02
295.0	1098.9	8.32
315.4	1119.3	8.38
356.1	1160.0	8.53
376.4	1180.3	8.60
417.1	1221.0	8.70
437.5	1241.4	8.76
478.2	1282.1	8.97
498.5	1302.4	9.05
539.2	1343.1	9.08
559.6	1363.5	9.17
600.3	1404.2	9.35
620.6	1424.5	9.32
661.3	1465.2	9.46
681.7	1485.6	9.62
722.4	1526.3	9.59
742.7	1546.6	9.59
783.4	1587.3	9.81
803.8	1607.7	9.77
844.5	1648.4	9.78
864.8	1668.7	9.91
905.5	1709.4	9.89
925.9	1729.8	9.90
966.6	1770.5	10.10
986.9	1790.8	10.03
1027.6	1831.5	9.99
1048.0	1851.9	10.08
1088.7	1892.6	10.12
1109.0	1912.9	10.03
1149.7	1953.6	10.20
1170.1	1974.0	10.19

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=869.1MHz (dB) @LO (dBm) +17
530.1	339.0	10.64
516.9	352.2	10.35
503.8	365.3	10.16
490.6	378.5	9.95
477.4	391.7	9.55
464.3	404.8	9.26
451.1	418.0	9.08
437.9	431.2	8.64
424.8	444.3	8.87
411.6	457.5	8.84
398.5	470.6	8.75
385.3	483.8	8.61
372.1	497.0	8.46
359.0	510.1	8.36
345.8	523.3	8.35
332.6	536.5	8.25
319.5	549.6	8.21
306.3	562.8	8.15
293.1	576.0	8.04
280.0	589.1	7.93
266.8	602.3	7.86
253.6	615.5	7.82
240.5	628.6	7.72
227.3	641.8	7.69
214.2	654.9	7.67
201.0	668.1	7.61
187.8	681.3	7.56
174.7	694.4	7.55
161.5	707.6	7.50
148.3	720.8	7.46
135.2	733.9	7.43
122.0	747.1	7.39
108.8	760.3	7.36
95.7	773.4	7.35
82.5	786.6	7.37
69.3	799.8	7.37
56.2	812.9	7.37
43.0	826.1	7.39
29.8	839.3	7.44
10.1	859.0	7.74

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+14	+17	+20	+14	+17	+20
241.1	36.00	38.40	36.49	53.55	52.42	41.54
321.1	34.26	36.64	34.49	51.14	50.88	39.97
401.1	32.65	34.86	32.53	49.74	49.20	37.95
481.1	31.33	33.37	31.14	44.11	42.55	35.64
561.1	29.84	31.68	30.02	41.54	40.74	33.49
641.1	27.90	29.68	28.86	56.48	56.02	31.26
721.1	26.32	27.97	28.22	38.51	37.72	29.22
801.1	26.15	27.96	28.52	33.40	33.21	28.06
881.1	26.50	28.05	29.15	33.45	33.97	28.23
961.1	27.64	29.00	30.09	32.66	33.45	28.80
1041.1	29.28	30.42	30.99	31.68	32.29	29.13
1101.1	30.73	32.08	31.58	30.82	31.20	29.61
1181.1	31.68	33.38	32.08	29.64	30.03	29.99
1241.1	32.23	34.13	32.69	29.09	29.49	30.31
1321.1	32.33	34.28	32.53	28.71	29.06	30.43
1381.1	32.62	34.57	32.48	28.64	28.91	30.76
1461.1	32.77	34.81	32.07	28.83	28.92	30.98
1521.1	32.74	34.74	31.65	29.20	29.20	31.34
1601.1	31.85	33.49	30.68	29.85	29.72	32.44
1661.1	31.07	32.47	30.34	30.27	30.14	33.88
1741.1	30.35	31.77	30.41	30.64	30.53	36.13
1801.1	29.90	31.49	30.39	30.66	30.58	37.28
1881.1	29.77	31.27	30.49	30.88	30.39	37.47
1941.1	29.66	31.08	30.35	31.04	30.47	36.48
2021.1	29.60	30.99	30.18	31.15	30.43	34.61
2081.1	29.57	31.03	30.14	31.15	30.37	33.66
2161.1	29.49	31.00	30.04	31.15	30.32	32.51
2221.1	29.46	30.82	29.88	30.94	30.04	31.67
2301.1	29.47	30.77	29.70	30.67	29.71	30.59
2361.1	29.29	30.49	29.35	30.61	29.53	29.94
2441.1	29.05	30.08	28.73	30.39	29.36	29.24
2501.1	28.61	29.68	28.36	30.08	29.41	29.33
2581.1	28.52	29.57	28.27	30.60	30.06	29.81
2641.1	28.65	29.83	28.47	31.63	31.26	30.61
2721.1	29.10	30.33	29.02	34.10	33.75	32.14
2781.1	29.66	30.97	29.58	37.21	36.94	33.02
2861.1	30.79	32.56	30.78	42.68	44.11	33.07
2921.1	32.37	34.56	32.25	39.83	40.92	32.13
3001.1	35.54	38.72	34.99	33.56	33.82	30.23
3061.1	39.44	43.32	37.90	30.51	30.61	28.76

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+14	+17	+20
314.1	241.1	40.15	44.21	37.96
394.1	321.1	41.45	45.54	38.27
474.1	401.1	39.93	41.55	38.36
554.1	481.1	38.44	38.66	37.85
634.1	561.1	30.35	29.89	42.77
714.1	641.1	34.85	37.21	41.35
794.1	721.1	37.80	37.79	40.64
874.1	801.1	38.72	42.17	49.97
954.1	881.1	34.24	38.61	45.47
1034.1	961.1	27.98	31.58	38.42
1114.1	1041.1	24.14	27.28	35.05
1174.1	1101.1	24.39	27.32	33.65
1254.1	1181.1	27.46	30.81	33.30
1314.1	1241.1	29.92	33.72	33.34
1394.1	1321.1	31.43	34.41	33.83
1454.1	1381.1	32.14	34.11	34.68
1534.1	1461.1	33.61	34.67	36.63
1594.1	1521.1	34.90	35.12	39.99
1674.1	1601.1	38.10	37.10	50.60
1734.1	1661.1	41.74	40.21	49.03
1814.1	1741.1	47.49	44.12	44.25
1874.1	1801.1	49.37	45.09	41.47
1954.1	1881.1	47.70	42.40	36.93
2014.1	1941.1	42.93	39.06	34.33
2094.1	2021.1	38.48	35.76	32.09
2154.1	2081.1	36.51	34.27	30.79
2234.1	2161.1	34.01	32.26	29.18
2294.1	2221.1	32.41	30.92	28.41
2374.1	2301.1	31.27	30.00	27.81
2434.1	2361.1	31.15	30.03	28.00
2514.1	2441.1	31.53	30.68	28.96
2574.1	2501.1	32.20	31.51	30.10
2654.1	2581.1	34.33	33.82	32.69
2714.1	2641.1	36.48	36.27	35.29
2794.1	2721.1	40.48	40.65	39.82
2854.1	2781.1	43.46	44.30	43.63
2934.1	2861.1	46.31	48.77	47.43
2994.1	2921.1	44.41	45.64	43.84
3074.1	3001.1	41.60	42.01	40.39
3134.1	3061.1	39.46	39.76	38.27

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+14	+17	+20
314.1	241.1	1.86	1.64	1.32
394.1	321.1	1.68	1.49	1.32
474.1	401.1	1.56	1.47	1.38
554.1	481.1	1.55	1.50	1.47
634.1	561.1	1.49	1.53	1.56
714.1	641.1	1.53	1.60	1.62
794.1	721.1	1.54	1.59	1.61
874.1	801.1	1.58	1.59	1.60
954.1	881.1	1.67	1.64	1.65
1034.1	961.1	1.82	1.75	1.74
1114.1	1041.1	1.99	1.89	1.84
1174.1	1101.1	2.07	1.95	1.88
1254.1	1181.1	2.09	1.97	1.89
1314.1	1241.1	2.09	1.96	1.87
1394.1	1321.1	2.08	1.92	1.81
1454.1	1381.1	2.06	1.88	1.76
1534.1	1461.1	2.01	1.83	1.69
1594.1	1521.1	2.01	1.81	1.65
1674.1	1601.1	2.00	1.78	1.60
1734.1	1661.1	1.94	1.72	1.54
1814.1	1741.1	1.88	1.65	1.46
1874.1	1801.1	1.87	1.64	1.44
1954.1	1881.1	1.85	1.61	1.41
2014.1	1941.1	1.79	1.57	1.38
2094.1	2021.1	1.75	1.55	1.37
2154.1	2081.1	1.76	1.57	1.38
2234.1	2161.1	1.71	1.54	1.37
2294.1	2221.1	1.63	1.47	1.33
2374.1	2301.1	1.55	1.41	1.30
2434.1	2361.1	1.53	1.40	1.30
2514.1	2441.1	1.45	1.34	1.27
2574.1	2501.1	1.37	1.28	1.25
2654.1	2581.1	1.31	1.23	1.23
2714.1	2641.1	1.29	1.22	1.23
2794.1	2721.1	1.23	1.19	1.23
2854.1	2781.1	1.18	1.17	1.23
2934.1	2861.1	1.14	1.18	1.26
2994.1	2921.1	1.16	1.20	1.29
3074.1	3001.1	1.18	1.26	1.34
3134.1	3061.1	1.22	1.30	1.40

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+14	+17	+20
241.1	25.56	23.18	27.59
321.1	22.29	20.45	22.00
401.1	18.11	16.89	16.26
481.1	12.89	12.26	10.69
561.1	7.90	7.66	6.24
641.1	3.99	3.90	3.31
721.1	1.63	1.56	1.86
801.1	1.52	1.58	1.89
881.1	3.06	3.16	2.82
961.1	5.16	5.22	4.05
1041.1	7.22	7.20	5.31
1101.1	8.27	8.08	6.13
1181.1	9.18	8.90	7.02
1241.1	9.74	9.48	7.76
1321.1	10.13	9.90	8.35
1381.1	10.25	9.90	8.35
1461.1	10.25	9.90	8.55
1521.1	10.19	9.90	8.77
1601.1	9.90	9.58	8.55
1661.1	9.58	9.18	8.16
1741.1	9.28	8.95	8.01
1801.1	8.99	8.72	7.87
1881.1	8.47	8.16	7.28
1941.1	8.05	7.76	6.89
2021.1	7.63	7.47	6.66
2081.1	7.25	7.05	6.28
2161.1	6.78	6.58	5.77
2221.1	6.53	6.42	5.65
2301.1	6.11	6.03	5.30
2361.1	5.79	5.66	4.89
2441.1	5.38	5.27	4.50
2501.1	5.02	4.96	4.26
2581.1	4.51	4.44	3.78
2641.1	4.07	3.96	3.34
2721.1	3.47	3.38	2.87
2781.1	3.00	2.93	2.52
2861.1	2.39	2.32	2.02
2921.1	1.95	1.88	1.68
3001.1	1.45	1.40	1.31
3061.1	1.15	1.11	1.15

IF (OUT) (MHz)	IF VSWR @LO=859MHz (:1) @LO (dBm)		
	+14	+17	+20
10.0	1.10	1.22	1.40
30.5	1.15	1.27	1.46
51.0	1.17	1.28	1.45
71.5	1.16	1.24	1.40
92.1	1.20	1.28	1.44
112.6	1.29	1.37	1.51
133.1	1.33	1.39	1.50
153.6	1.33	1.38	1.49
174.1	1.40	1.45	1.54
194.6	1.50	1.54	1.60
215.1	1.53	1.55	1.59
235.6	1.54	1.56	1.60
256.2	1.61	1.64	1.67
276.7	1.70	1.70	1.70
297.2	1.70	1.70	1.69
317.7	1.74	1.75	1.74
338.2	1.83	1.83	1.81
358.7	1.86	1.83	1.79
379.2	1.85	1.83	1.79
399.7	1.95	1.93	1.89
420.3	2.02	1.98	1.92
440.8	1.99	1.93	1.86
461.3	2.03	1.98	1.91
481.8	2.15	2.09	2.00
502.3	2.15	2.08	1.99
522.8	2.14	2.06	1.96
543.3	2.22	2.13	2.03
563.8	2.29	2.19	2.07
584.4	2.31	2.19	2.07
604.9	2.28	2.17	2.05
625.4	2.36	2.24	2.11
645.9	2.41	2.28	2.13
666.4	2.37	2.23	2.08
686.9	2.40	2.26	2.12
707.4	2.48	2.33	2.18
727.9	2.45	2.29	2.13
748.5	2.40	2.24	2.09
769.0	2.49	2.33	2.17
789.5	2.50	2.33	2.16
810.0	2.42	2.25	2.09

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	4	8	25	22	31	38	38	44	40	55
1	-	32	+0	32	13	32	25	34	32	37	46	45
2	66	49	56	48	66	50	68	53	64	59	>81	68
3	>90	70	65	68	62	65	62	64	64	67	66	71
4	>90	>81	>81	79	>81	77	80	>81	>81	>81	>81	>81
5	>90	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
6	>90	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
7	>90	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
8	>90	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
9	>90	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
10	>90	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 836.5 MHz; -1.00 dBm.
LO IN: 763.5 MHz; +17.00 dBm
IF OUT: 73 MHz; -8.73 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	14	18	33	31	39	42	49	57	56	66
1	-	33	+0	33	13	33	26	35	35	39	52	46
2	46	41	47	40	61	42	62	46	59	54	75	66
3	68	54	47	53	45	50	45	50	51	54	54	57
4	>90	70	65	64	76	66	73	65	69	62	68	64
5	>90	77	79	80	70	69	66	65	64	63	66	67
6	>90	83	80	80	78	75	79	78	77	78	81	80
7	>90	>91	>91	>91	87	90	82	78	79	76	76	74
8	>90	>91	>91	>91	91	90	88	86	85	85	84	84
9	>90	>91	>91	>91	>91	>91	>91	>91	>91	87	90	84
10	>90	>91	>91	>91	>91	>91	>91	>91	>91	>91	89	>91
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 836.5 MHz; 9.00 dBm.
LO IN: 763.5 MHz; +17.00 dBm
IF OUT: 73 MHz; 1.24 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.