Frequency Mixer HJK-ED14508/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=70MHz (dB) @LO (dBm)		
		+14	+17	+20
380.1	450.1	11.88	11.04	10.01
400.1	470.1	9.14	8.25	7.61
425.1	495.1	7.81	7.35	7.07
450.1	520.1	7.59	7.20	6.91
470.1	540.1	7.48	7.13	6.88
495.1	565.1	7.34	7.02	6.78
520.1	590.1	7.38	7.06	6.82
545.1	615.1	7.41	7.10	6.95
565.1	635.1	7.46	7.18	7.01
590.1	660.1	7.42	7.18	7.01
615.1	685.1	7.40	7.18	6.99
635.1	705.1	7.32	7.11	6.94
660.1	730.1	7.35	7.11	6.98
685.1	755.1	7.39	7.16	6.99
710.1	780.1	7.36	7.13	6.98
730.1	800.1	7.41	7.21	7.07
755.1	825.1	7.55	7.37	7.22
780.1	850.1	7.64	7.43	7.29
800.1	870.1	7.70	7.51	7.37
825.1	895.1	7.72	7.56	7.47
850.1	920.1	7.85	7.70	7.62
880.1	950.1	7.97	7.83	7.76
895.1	965.1	8.03	7.89	7.83
920.1	990.1	8.16	8.01	7.96
945.1	1015.1	8.21	8.11	8.02
965.1	1035.1	8.35	8.24	8.18
990.1	1060.1	8.46	8.39	8.36
1015.1	1085.1	8.65	8.62	8.61
1040.1	1110.1	8.80	8.74	8.77
1060.1	1130.1	8.91	8.86	8.89
1085.1	1155.1	9.03	8.99	9.04
1110.1	1180.1	9.17	9.14	9.18
1130.1	1200.1	9.22	9.20	9.21
1155.1	1225.1	9.26	9.16	9.17
1180.1	1250.1	9.15	9.04	9.00
1205.1	1275.1	9.07	8.92	8.84
1225.1	1295.1	8.98	8.75	8.69
1250.1	1320.1	8.84	8.65	8.49
1275.1	1345.1	8.79	8.52	8.35
1300.1	1370.1	8.71	8.45	8.26

RF (IN) (MHz)	LO (MHz)	IP-3 INPUT (dBm) @LO (dBm)		
		+14	+17	+20
380.1	450.1	24.01	24.55	25.76
400.1	470.1	23.39	23.45	25.10
425.1	495.1	23.73	26.85	29.81
450.1	520.1	25.14	28.23	30.22
470.1	540.1	25.66	27.97	29.71
495.1	565.1	26.57	28.58	30.45
520.1	590.1	26.45	28.39	30.17
545.1	615.1	26.80	28.73	30.70
565.1	635.1	27.40	29.17	31.23
590.1	660.1	28.34	30.24	32.52
615.1	685.1	28.87	30.69	33.02
635.1	705.1	29.51	31.28	33.81
660.1	730.1	30.06	31.76	34.15
685.1	755.1	30.05	31.95	34.56
710.1	780.1	29.89	31.62	34.40
730.1	800.1	30.23	32.16	35.13
755.1	825.1	30.72	32.75	35.81
780.1	850.1	31.29	33.61	37.13
800.1	870.1	31.67	34.03	37.73
825.1	895.1	32.21	34.78	38.86
850.1	920.1	33.07	35.94	40.13
880.1	950.1	34.03	37.23	41.65
895.1	965.1	34.51	37.68	41.96
920.1	990.1	35.21	38.49	42.47
945.1	1015.1	35.47	38.79	42.43
965.1	1035.1	35.68	38.95	42.34
990.1	1060.1	35.75	38.79	42.31
1015.1	1085.1	36.17	39.17	42.93
1040.1	1110.1	36.75	39.85	43.43
1060.1	1130.1	36.91	40.12	43.70
1085.1	1155.1	36.75	40.76	44.16
1110.1	1180.1	35.80	40.50	43.87
1130.1	1200.1	35.23	40.37	44.19
1155.1	1225.1	34.69	39.80	44.11
1180.1	1250.1	34.88	40.58	44.00
1205.1	1275.1	35.02	40.78	44.14
1225.1	1295.1	35.56	41.09	44.26
1250.1	1320.1	35.15	39.89	42.80
1275.1	1345.1	34.62	39.39	42.21
1300.1	1370.1	33.98	37.71	40.06

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+20dBm (dB) @LO (dBm)		
		+14	+17	+20
380.1	450.1	0.21	0.21	0.07
400.1	470.1	1.74	1.50	1.15
425.1	495.1	1.87	1.11	0.61
450.1	520.1	1.71	0.87	0.40
470.1	540.1	1.55	0.69	0.27
495.1	565.1	1.18	0.52	0.19
520.1	590.1	1.25	0.54	0.26
545.1	615.1	1.15	0.43	0.12
565.1	635.1	0.93	0.42	0.21
590.1	660.1	0.83	0.35	0.20
615.1	685.1	0.74	0.37	0.19
635.1	705.1	0.71	0.37	0.15
660.1	730.1	0.69	0.42	0.26
685.1	755.1	0.64	0.42	0.23
710.1	780.1	0.68	0.33	0.18
730.1	800.1	0.65	0.41	0.23
755.1	825.1	0.57	0.31	0.19
780.1	850.1	0.53	0.24	0.15
800.1	870.1	0.44	0.26	0.14
825.1	895.1	0.55	0.29	0.13
850.1	920.1	0.46	0.27	0.22
880.1	950.1	0.52	0.32	0.18
895.1	965.1	0.50	0.27	0.11
920.1	990.1	0.50	0.36	0.19
945.1	1015.1	0.61	0.41	0.35
965.1	1035.1	0.60	0.38	0.26
990.1	1060.1	0.60	0.44	0.30
1015.1	1085.1	0.58	0.31	0.17
1040.1	1110.1	0.49	0.29	0.13
1060.1	1130.1	0.52	0.29	0.15
1085.1	1155.1	0.48	0.29	0.15
1110.1	1180.1	0.51	0.31	0.17
1130.1	1200.1	0.46	0.27	0.14
1155.1	1225.1	0.42	0.26	0.13
1180.1	1250.1	0.56	0.33	0.15
1205.1	1275.1	0.72	0.36	0.20
1225.1	1295.1	0.80	0.40	0.20
1250.1	1320.1	0.93	0.40	0.23
1275.1	1345.1	0.98	0.38	0.16
1300.1	1370.1	1.11	0.44	0.16

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=665MHz (dB) @LO (dBm) +17
224.9	440.1	14.23
215.9	449.1	11.02
203.9	461.1	9.30
194.9	470.1	8.43
182.9	482.1	7.66
173.9	491.1	7.57
161.9	503.1	7.49
149.9	515.1	7.47
140.9	524.1	7.37
128.9	536.1	7.43
119.9	545.1	7.38
107.9	557.1	7.40
95.9	569.1	7.34
86.9	578.1	7.38
74.9	590.1	7.39
65.9	599.1	7.41
53.9	611.1	7.34
41.9	623.1	7.37
32.9	632.1	7.33
20.9	644.1	7.35
10.1	675.1	7.51
25.1	690.1	7.32
40.1	705.1	7.26
60.1	725.1	7.21
75.1	740.1	7.15
90.1	755.1	7.15
110.1	775.1	7.10
125.1	790.1	7.08
140.1	805.1	7.14
160.1	825.1	7.14
175.1	840.1	7.17
190.1	855.1	7.12
210.1	875.1	7.11
225.1	890.1	7.29
240.1	905.1	7.31
260.1	925.1	7.39
275.1	940.1	7.53
290.1	955.1	7.54
310.1	975.1	7.60
325.1	990.1	7.72

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=450MHz (dB) @LO (dBm) +17
10.1	460.1	9.64
25.1	475.1	7.89
45.1	495.1	7.36
65.1	515.1	7.30
85.1	535.1	7.18
100.1	550.1	7.10
120.1	570.1	7.05
140.1	590.1	7.05
160.1	610.1	7.14
180.1	630.1	7.14
195.1	645.1	7.17
215.1	665.1	7.11
235.1	685.1	7.17
255.1	705.1	7.13
275.1	725.1	7.12
290.1	740.1	7.18
310.1	760.1	7.20
330.1	780.1	7.31
350.1	800.1	7.37
370.1	820.1	7.49
385.1	835.1	7.60
405.1	855.1	7.83
425.1	875.1	8.20
445.1	895.1	8.41
465.1	915.1	8.76
480.1	930.1	8.90
500.1	950.1	9.13
520.1	970.1	9.38
540.1	990.1	9.76
560.1	1010.1	10.12
575.1	1025.1	10.30
595.1	1045.1	10.68
615.1	1065.1	11.11
635.1	1085.1	11.59
655.1	1105.1	11.97
670.1	1120.1	12.30
690.1	1140.1	12.74
710.1	1160.1	13.14
730.1	1180.1	13.59
750.1	1200.1	13.93

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=880MHz (dB) @LO (dBm) +17
399.9	480.1	11.04
394.9	485.1	10.85
384.9	495.1	10.46
374.9	505.1	10.05
364.9	515.1	9.89
354.9	525.1	9.51
344.9	535.1	9.36
334.9	545.1	9.07
324.9	555.1	8.94
314.9	565.1	8.80
304.9	575.1	8.63
294.9	585.1	8.46
284.9	595.1	8.23
274.9	605.1	8.19
264.9	615.1	8.05
254.9	625.1	8.06
244.9	635.1	7.84
234.9	645.1	7.86
224.9	655.1	7.76
214.9	665.1	7.69
204.9	675.1	7.61
194.9	685.1	7.61
184.9	695.1	7.65
174.9	705.1	7.62
164.9	715.1	7.70
154.9	725.1	7.61
144.9	735.1	7.74
134.9	745.1	7.73
124.9	755.1	7.75
114.9	765.1	7.78
104.9	775.1	7.74
94.9	785.1	7.79
84.9	795.1	7.75
74.9	805.1	7.82
64.9	815.1	7.82
54.9	825.1	7.82
44.9	835.1	7.81
34.9	845.1	7.84
24.9	855.1	7.84
14.9	865.1	7.83

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+14	+17	+20	+14	+17	+20
450.1	41.19	39.89	37.01	29.98	31.08	34.40
470.1	40.40	39.53	37.73	33.33	34.09	35.56
495.1	39.75	39.58	39.60	36.24	37.03	37.75
520.1	40.94	40.72	40.70	37.78	38.40	38.93
540.1	42.02	41.65	41.58	38.77	39.50	40.16
565.1	42.69	42.10	41.71	39.07	39.82	40.49
590.1	44.12	43.73	43.49	38.67	39.29	39.89
615.1	45.17	44.71	44.33	38.78	39.36	39.95
635.1	46.17	45.82	45.59	39.14	39.68	40.19
660.1	45.96	46.05	46.09	39.61	40.16	40.67
685.1	45.17	45.44	45.63	39.99	40.56	41.00
705.1	45.67	45.80	45.84	40.35	41.00	41.52
730.1	46.19	46.18	46.17	41.13	41.83	42.43
755.1	46.35	46.27	46.21	41.51	42.22	42.81
780.1	46.15	46.14	46.12	41.81	42.50	43.11
800.1	46.66	46.79	46.83	42.13	42.79	43.36
825.1	46.41	46.67	46.82	42.51	43.11	43.65
850.1	46.25	46.61	46.79	42.69	43.17	43.58
870.1	46.04	46.42	46.67	42.85	43.31	43.72
895.1	46.35	46.95	47.32	43.57	44.03	44.47
920.1	46.59	47.41	48.00	44.36	44.89	45.42
950.1	46.71	47.71	48.41	45.69	46.31	46.93
965.1	46.70	47.96	48.99	47.17	47.86	48.57
990.1	46.88	48.43	49.71	49.94	50.70	51.46
1015.1	46.74	48.68	50.55	52.62	53.40	53.95
1035.1	46.06	47.94	49.78	56.60	56.57	55.79
1060.1	45.03	46.72	48.47	59.67	57.54	55.30
1085.1	43.60	44.75	45.80	58.39	55.33	53.05
1110.1	42.08	42.92	43.71	55.37	53.03	51.18
1130.1	40.62	41.17	41.65	52.69	51.00	49.58
1155.1	38.73	39.03	39.35	51.06	49.68	48.52
1180.1	36.90	36.98	37.07	49.44	48.34	47.47
1200.1	35.48	35.48	35.50	48.68	47.62	46.83
1225.1	33.91	33.80	33.74	47.86	46.85	46.15
1250.1	32.16	32.08	32.04	47.74	46.62	45.84
1275.1	31.31	31.41	31.63	47.36	46.25	45.45
1295.1	32.32	32.82	33.63	47.56	46.41	45.49
1320.1	36.63	38.05	39.74	46.51	45.46	44.62
1345.1	43.11	43.76	43.74	45.52	44.49	43.71
1370.1	42.02	40.72	40.06	44.51	43.56	42.87

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+14	+17	+20
380.1	450.1	17.96	16.48	15.09
400.1	470.1	14.25	13.60	13.73
425.1	495.1	20.13	21.75	24.79
450.1	520.1	29.39	33.53	37.24
470.1	540.1	30.56	32.20	33.48
495.1	565.1	32.39	33.82	35.05
520.1	590.1	33.65	34.61	35.18
545.1	615.1	36.10	37.43	38.19
565.1	635.1	37.11	38.19	38.95
590.1	660.1	39.33	40.14	40.35
615.1	685.1	39.43	39.91	40.25
635.1	705.1	39.58	39.57	39.02
660.1	730.1	40.04	40.14	39.98
685.1	755.1	40.00	39.41	38.42
710.1	780.1	41.42	41.24	40.79
730.1	800.1	41.48	41.42	40.60
755.1	825.1	41.60	41.93	41.85
780.1	850.1	41.07	41.36	41.11
800.1	870.1	41.07	41.32	41.25
825.1	895.1	40.92	41.12	40.93
850.1	920.1	41.09	41.20	41.18
880.1	950.1	41.08	41.16	41.06
895.1	965.1	40.91	40.91	40.88
920.1	990.1	40.86	40.81	40.75
945.1	1015.1	40.83	40.86	40.66
965.1	1035.1	40.80	40.85	40.78
990.1	1060.1	40.65	40.70	40.63
1015.1	1085.1	40.48	40.69	40.70
1040.1	1110.1	40.35	40.53	40.54
1060.1	1130.1	40.21	40.48	40.57
1085.1	1155.1	39.97	40.23	40.30
1110.1	1180.1	39.83	40.13	40.30
1130.1	1200.1	39.66	39.95	40.10
1155.1	1225.1	39.63	39.98	40.16
1180.1	1250.1	39.23	39.57	39.75
1205.1	1275.1	38.99	39.42	39.64
1225.1	1295.1	38.57	38.94	39.07
1250.1	1320.1	38.22	38.64	38.79
1275.1	1345.1	38.00	38.38	38.59
1300.1	1370.1	37.99	38.41	38.66

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+14	+17	+20
380.1	410.1	2.25	2.21	1.89
400.1	430.1	1.82	1.81	1.72
425.1	455.1	1.65	1.63	1.63
450.1	480.1	1.46	1.54	1.64
470.1	500.1	1.41	1.50	1.59
495.1	525.1	1.43	1.54	1.63
520.1	550.1	1.51	1.62	1.72
545.1	575.1	1.61	1.74	1.85
565.1	595.1	1.67	1.81	1.92
590.1	620.1	1.77	1.92	2.06
615.1	645.1	1.86	2.03	2.18
635.1	665.1	1.92	2.10	2.25
660.1	690.1	1.91	2.10	2.28
685.1	715.1	1.95	2.13	2.30
710.1	740.1	2.01	2.18	2.33
730.1	760.1	2.08	2.24	2.39
755.1	785.1	2.15	2.32	2.47
780.1	810.1	2.24	2.41	2.56
800.1	830.1	2.31	2.48	2.64
825.1	855.1	2.36	2.55	2.70
850.1	880.1	2.41	2.60	2.76
880.1	910.1	2.47	2.66	2.82
895.1	925.1	2.48	2.68	2.84
920.1	950.1	2.54	2.73	2.90
945.1	975.1	2.54	2.71	2.87
965.1	995.1	2.54	2.70	2.85
990.1	1020.1	2.59	2.75	2.89
1015.1	1045.1	2.60	2.77	2.91
1040.1	1070.1	2.59	2.76	2.90
1060.1	1090.1	2.54	2.71	2.86
1085.1	1115.1	2.46	2.64	2.78
1110.1	1140.1	2.43	2.59	2.73
1130.1	1160.1	2.35	2.50	2.63
1155.1	1185.1	2.21	2.34	2.46
1180.1	1210.1	2.10	2.23	2.34
1205.1	1235.1	1.99	2.11	2.22
1225.1	1255.1	1.92	2.03	2.14
1250.1	1280.1	1.84	1.95	2.06
1275.1	1305.1	1.80	1.91	2.02
1300.1	1330.1	1.76	1.88	1.99

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+14	+17	+20
410.1	8.39	8.67	5.38
430.1	10.98	11.18	8.12
455.1	12.82	12.95	13.06
480.1	13.09	13.08	13.02
500.1	12.79	12.79	12.74
525.1	11.87	11.80	11.67
550.1	11.00	10.92	10.80
575.1	9.96	9.87	9.76
595.1	9.27	9.19	9.10
620.1	8.35	8.26	8.17
645.1	7.51	7.44	7.34
665.1	6.96	6.89	6.82
690.1	6.30	6.23	6.17
715.1	5.70	5.64	5.57
740.1	5.16	5.10	5.03
770.1	4.61	4.57	4.52
785.1	4.39	4.35	4.30
810.1	3.98	3.94	3.89
830.1	3.72	3.69	3.65
855.1	3.46	3.43	3.40
880.1	3.21	3.19	3.17
905.1	3.02	3.01	2.99
925.1	2.91	2.90	2.89
950.1	2.81	2.81	2.81
975.1	2.74	2.75	2.76
995.1	2.73	2.75	2.77
1020.1	2.79	2.82	2.85
1045.1	2.86	2.90	2.94
1070.1	3.00	3.04	3.09
1090.1	3.12	3.18	3.23
1115.1	3.32	3.38	3.45
1140.1	3.52	3.59	3.65
1160.1	3.69	3.75	3.80
1185.1	3.91	3.97	4.03
1210.1	4.11	4.18	4.25
1235.1	4.30	4.36	4.40
1255.1	4.46	4.50	4.52
1280.1	4.76	4.80	4.84
1305.1	5.22	5.28	5.35
1330.1	5.57	5.64	5.69

IF (OUT) (MHz)	IF VSWR @LO=70MHz (:1) @LO (dBm)		
	+14	+17	+20
10.1	1.61	1.56	1.53
16.1	1.64	1.59	1.57
24.1	1.68	1.63	1.61
32.1	1.72	1.69	1.67
38.1	1.77	1.73	1.72
46.1	1.83	1.81	1.79
54.1	1.91	1.88	1.87
62.1	1.98	1.96	1.95
70.1	2.11	2.11	2.12
76.1	2.14	2.13	2.13
84.1	2.23	2.22	2.22
90.1	2.30	2.29	2.29
98.1	2.38	2.38	2.38
106.1	2.46	2.46	2.47
114.1	2.53	2.54	2.54
120.1	2.59	2.60	2.60
128.1	2.66	2.66	2.66
136.1	2.71	2.71	2.71
142.1	2.77	2.77	2.77
150.1	2.81	2.82	2.81
158.1	2.87	2.87	2.86
166.1	2.93	2.93	2.92
172.1	2.99	2.99	2.98
180.1	3.10	3.09	3.07
188.1	3.17	3.15	3.13
194.1	3.18	3.17	3.15
202.1	3.22	3.20	3.18
210.1	3.21	3.20	3.19
218.1	3.26	3.26	3.24
224.1	3.28	3.27	3.26
232.1	3.28	3.28	3.27
240.1	3.29	3.29	3.29
246.1	3.29	3.29	3.29
254.1	3.29	3.30	3.30
262.1	3.34	3.35	3.35
270.1	3.36	3.37	3.37
276.1	3.38	3.39	3.39
284.1	3.39	3.40	3.40
292.1	3.40	3.41	3.42
300.1	3.42	3.43	3.43

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	---	---	20.55	33.35	40.22	36.68	54.64	48.53	49.58	46.59	49.05	49.94
1	---	31.04	---	40.53	25.29	59.49	36.35	64.50	50.68	62.62	59.75	62.11
2	91.41	48.28	44.56	62.66	53.24	59.91	59.90	70.19	83.89	63.41	73.55	67.69
3	113.67	94.55	54.71	69.20	46.18	72.91	60.38	77.49	69.63	87.63	73.47	82.00
4	110.97	78.95	84.05	75.42	73.26	66.90	81.29	79.84	91.96	81.49	104.45	78.14
5	112.71	96.02	75.08	97.05	78.15	71.59	63.86	89.08	90.70	84.74	94.30	97.01
6	111.21	98.92	90.03	85.02	85.33	86.38	65.10	75.38	81.43	98.09	79.30	97.28
7	113.61	95.67	102.54	97.42	83.12	96.69	77.42	78.18	70.95	93.02	90.71	91.98
8	110.73	103.33	100.69	105.95	97.18	107.71	92.62	105.46	73.99	90.14	93.44	109.83
9	111.24	102.44	107.62	101.99	113.15	101.47	97.31	101.69	86.74	84.45	85.76	100.08
10	113.22	115.75	110.56	117.70	111.27	116.75	108.09	101.37	113.31	95.55	94.47	90.84
RF CAL		0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 665 MHz; 5.00 dBm.
LO IN: 735 MHz; +17.00 dBm
IF OUT: 70 MHz; -2.88 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	---	---	32.50	43.06	48.73	44.03	62.99	50.16	61.54	52.57	64.03	53.75
1	---	33.25	---	39.73	27.11	64.29	41.21	66.19	59.46	64.55	61.46	67.25
2	81.43	39.84	44.03	51.63	51.52	52.04	60.59	69.33	78.43	62.39	80.27	75.42
3	103.02	67.31	44.74	62.01	36.57	58.16	50.30	75.82	58.42	88.36	67.03	81.33
4	101.59	70.94	77.37	65.93	54.99	65.96	69.56	69.82	67.74	79.10	87.32	66.98
5	101.05	92.53	59.93	79.31	56.18	72.22	49.46	67.87	61.64	89.51	74.12	98.21
6	102.26	86.66	89.96	76.14	104.95	74.15	66.29	81.80	84.39	77.52	74.00	89.07
7	102.34	94.19	104.46	93.68	77.63	82.05	63.18	75.49	57.74	76.40	70.95	82.53
8	99.68	91.48	95.89	96.43	94.83	93.65	105.55	84.03	76.87	83.92	93.11	86.47
9	101.63	98.09	97.82	97.68	116.38	93.65	90.01	87.64	75.76	86.48	69.65	83.30
10	101.94	98.23	104.40	102.29	97.55	101.90	104.70	96.96	91.18	80.26	87.86	82.73
RF CAL		0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 665 MHz; 15.00 dBm.
LO IN: 735 MHz; +17.00 dBm
IF OUT: 70 MHz; 7.17 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 represents the Harmonics level of the RF Input Signal to the mixer