Frequency Mixer MWJ-ED16207/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=21MHz (dB) @LO (dBm)		
		+14	+17	+20
32.1	11.1	8.02	7.33	7.01
38.1	17.1	6.53	6.15	5.97
46.1	25.1	5.94	5.76	5.62
54.1	33.1	5.69	5.54	5.46
60.1	39.1	5.55	5.44	5.36
68.1	47.1	5.44	5.33	5.24
76.1	55.1	5.44	5.29	5.22
82.1	61.1	5.49	5.39	5.31
90.1	69.1	5.63	5.50	5.42
98.1	77.1	5.75	5.64	5.55
104.1	83.1	5.89	5.75	5.66
112.1	91.1	6.08	5.92	5.81
120.1	99.1	6.26	6.10	5.97
128.1	107.1	6.41	6.24	6.10
134.1	113.1	6.50	6.31	6.18
142.1	121.1	6.59	6.40	6.26
150.1	129.1	6.65	6.47	6.33
156.1	135.1	6.81	6.62	6.47
164.1	143.1	7.08	6.88	6.72
172.1	151.1	7.38	7.20	7.04
178.1	157.1	7.64	7.42	7.26
186.1	165.1	7.97	7.73	7.54
194.1	173.1	8.28	8.02	7.80
200.1	179.1	8.52	8.24	8.01
208.1	187.1	8.76	8.46	8.21
216.1	195.1	8.92	8.61	8.36
224.1	203.1	9.00	8.68	8.42
230.1	209.1	9.04	8.71	8.46
238.1	217.1	9.10	8.77	8.51
246.1	225.1	9.21	8.86	8.59
252.1	231.1	9.34	9.00	8.73
260.1	239.1	9.59	9.22	8.95
268.1	247.1	9.90	9.52	9.22
274.1	253.1	10.14	9.74	9.41
282.1	261.1	10.44	10.01	9.67
290.1	269.1	10.69	10.26	9.90
296.1	275.1	10.89	10.45	10.06
304.1	283.1	11.08	10.62	10.23
312.1	291.1	11.21	10.73	10.33
320.1	299.1	11.26	10.78	10.36

RF (IN) (MHz)	LO (MHz)	IP-3 INPUT (dBm) @LO (dBm)		
		+14	+17	+20
32.1	11.1	14.44	18.14	22.66
38.1	17.1	18.94	22.38	26.01
46.1	25.1	23.87	27.20	29.72
54.1	33.1	26.46	29.17	30.34
60.1	39.1	27.47	29.51	31.04
68.1	47.1	28.37	30.82	34.61
76.1	55.1	29.89	33.85	39.57
82.1	61.1	31.98	36.85	37.07
90.1	69.1	35.64	40.10	37.32
98.1	77.1	36.97	36.24	36.19
104.1	83.1	35.06	35.28	35.51
112.1	91.1	33.49	34.51	34.83
120.1	99.1	31.90	33.89	34.45
128.1	107.1	30.35	32.81	34.31
134.1	113.1	29.72	32.07	33.91
142.1	121.1	29.31	31.59	33.85
150.1	129.1	28.98	31.67	34.02
156.1	135.1	28.71	31.57	34.38
164.1	143.1	28.23	30.95	33.63
172.1	151.1	27.71	30.50	32.99
178.1	157.1	27.05	29.68	31.92
186.1	165.1	26.23	28.44	31.29
194.1	173.1	25.69	28.00	30.92
200.1	179.1	25.35	27.67	30.77
208.1	187.1	25.31	27.81	30.90
216.1	195.1	25.23	27.68	30.90
224.1	203.1	25.05	27.56	30.64
230.1	209.1	24.85	27.39	30.38
238.1	217.1	24.58	27.04	29.98
246.1	225.1	24.46	27.11	29.94
252.1	231.1	24.50	27.40	30.00
260.1	239.1	24.22	27.08	29.68
268.1	247.1	23.57	26.52	29.33
274.1	253.1	23.00	25.89	28.64
282.1	261.1	22.35	25.14	27.77
290.1	269.1	22.17	24.77	27.35
296.1	275.1	22.35	24.85	27.71
304.1	283.1	22.61	25.18	28.03
312.1	291.1	22.58	25.15	28.26
320.1	299.1	22.35	25.19	28.15

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+20dBm (dB) @LO (dBm)		
		+14	+17	+20
32.1	11.1	6.90	5.73	4.23
38.1	17.1	5.36	4.12	2.69
46.1	25.1	3.43	2.16	1.16
54.1	33.1	2.27	1.22	0.65
60.1	39.1	1.87	0.92	0.49
68.1	47.1	1.48	0.73	0.41
76.1	55.1	1.08	0.61	0.32
82.1	61.1	0.88	0.47	0.26
90.1	69.1	0.63	0.36	0.21
98.1	77.1	0.52	0.28	0.17
104.1	83.1	0.46	0.28	0.15
112.1	91.1	0.44	0.26	0.14
120.1	99.1	0.50	0.27	0.16
128.1	107.1	0.56	0.33	0.20
134.1	113.1	0.58	0.35	0.22
142.1	121.1	0.61	0.37	0.22
150.1	129.1	0.66	0.42	0.26
156.1	135.1	0.68	0.39	0.24
164.1	143.1	0.72	0.40	0.26
172.1	151.1	0.82	0.45	0.30
178.1	157.1	0.87	0.48	0.31
186.1	165.1	0.95	0.54	0.34
194.1	173.1	1.07	0.60	0.40
200.1	179.1	1.14	0.68	0.42
208.1	187.1	1.23	0.72	0.45
216.1	195.1	1.32	0.78	0.48
224.1	203.1	1.40	0.81	0.50
230.1	209.1	1.43	0.85	0.51
238.1	217.1	1.49	0.88	0.53
246.1	225.1	1.57	0.88	0.51
252.1	231.1	1.65	0.91	0.51
260.1	239.1	1.73	0.97	0.56
268.1	247.1	1.86	1.00	0.56
274.1	253.1	1.96	1.09	0.63
282.1	261.1	2.07	1.18	0.68
290.1	269.1	2.16	1.24	0.72
296.1	275.1	2.21	1.23	0.71
304.1	283.1	2.19	1.29	0.71
312.1	291.1	2.22	1.33	0.74
320.1	299.1	2.27	1.34	0.76

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=113.1MHz (dB) @LO (dBm) +17
103.0	10.1	7.17
99.0	14.1	6.77
94.0	19.1	6.48
89.0	24.1	6.30
84.0	29.1	6.14
80.0	33.1	6.13
75.0	38.1	6.17
70.0	43.1	6.09
65.0	48.1	6.12
61.0	52.1	6.16
56.0	57.1	6.22
51.0	62.1	6.12
46.0	67.1	6.06
41.0	72.1	5.95
37.0	76.1	5.91
32.0	81.1	5.90
27.0	86.1	5.91
22.0	91.1	5.92
18.0	95.1	5.93
13.0	100.1	6.01
10.0	123.1	6.17
18.0	131.1	6.25
28.0	141.1	6.33
36.0	149.1	6.22
46.0	159.1	6.36
54.0	167.1	6.28
64.0	177.1	6.32
72.0	185.1	6.44
82.0	195.1	6.53
90.0	203.1	6.57
100.0	213.1	6.65
108.0	221.1	6.60
118.0	231.1	6.77
126.0	239.1	6.79
136.0	249.1	6.85
144.0	257.1	6.80
154.0	267.1	6.80
162.0	275.1	6.82
172.0	285.1	6.80
180.0	293.1	6.81

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=108.1MHz (dB) @LO (dBm) +17
10.0	118.1	6.29
14.0	122.1	6.39
18.0	126.1	6.37
22.0	130.1	6.44
28.0	136.1	6.44
32.0	140.1	6.42
36.0	144.1	6.37
42.0	150.1	6.44
46.0	154.1	6.48
50.0	158.1	6.50
56.0	164.1	6.46
60.0	168.1	6.47
64.0	172.1	6.58
68.0	176.1	6.60
74.0	182.1	6.65
78.0	186.1	6.67
82.0	190.1	6.69
88.0	196.1	6.73
92.0	200.1	6.76
96.0	204.1	6.81
102.0	210.1	6.73
106.0	214.1	6.74
110.0	218.1	6.93
116.0	224.1	6.94
120.0	228.1	6.96
124.0	232.1	6.98
128.0	236.1	6.98
134.0	242.1	6.96
138.0	246.1	6.98
142.0	250.1	7.02
148.0	256.1	7.05
152.0	260.1	7.08
156.0	264.1	7.08
162.0	270.1	7.12
166.0	274.1	7.13
170.0	278.1	7.16
176.0	284.1	7.14
180.0	288.1	7.16
184.0	292.1	7.17
190.0	298.1	7.16

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=118.1MHz (dB) @LO (dBm) +17
108.0	10.1	8.36
106.0	12.1	7.94
103.0	15.1	7.53
101.0	17.1	7.34
98.0	20.1	7.11
96.0	22.1	7.00
93.0	25.1	6.85
91.0	27.1	6.76
88.0	30.1	6.71
86.0	32.1	6.64
83.0	35.1	6.56
81.0	37.1	6.50
78.0	40.1	6.66
76.0	42.1	6.59
73.0	45.1	6.48
71.0	47.1	6.42
68.0	50.1	6.39
66.0	52.1	6.40
63.0	55.1	6.37
61.0	57.1	6.41
58.0	60.1	6.40
56.0	62.1	6.32
53.0	65.1	6.29
51.0	67.1	6.36
48.0	70.1	6.34
46.0	72.1	6.32
43.0	75.1	6.27
41.0	77.1	6.23
38.0	80.1	6.27
36.0	82.1	6.22
33.0	85.1	6.23
31.0	87.1	6.23
28.0	90.1	6.24
26.0	92.1	6.25
23.0	95.1	6.27
21.0	97.1	6.26
18.0	100.1	6.31
16.0	102.1	6.41
13.0	105.1	6.38
10.0	108.1	6.27

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+14	+17	+20	+14	+17	+20
11.1	80.26	80.06	88.35	77.52	73.76	73.17
17.1	74.31	69.47	71.02	64.44	63.53	63.04
25.1	60.56	59.15	59.61	56.85	56.49	56.23
33.1	55.21	55.15	54.65	52.70	52.45	52.43
39.1	53.08	52.36	52.61	52.10	52.06	52.07
47.1	52.04	52.07	52.18	51.70	51.74	51.85
55.1	50.93	51.10	51.15	51.16	51.57	51.63
61.1	49.66	49.90	49.91	51.77	52.18	52.26
69.1	49.52	49.86	50.13	51.96	52.32	52.60
77.1	49.70	50.08	50.43	51.43	51.82	52.00
83.1	49.99	50.22	50.46	51.63	51.95	52.03
91.1	50.64	50.90	51.05	52.63	52.76	52.93
99.1	51.23	51.65	51.72	52.74	52.93	52.86
107.1	51.66	52.14	52.31	53.51	53.52	53.44
113.1	52.14	52.49	52.64	54.48	54.48	54.34
121.1	52.62	53.04	53.28	54.83	54.63	54.43
129.1	53.03	53.39	53.80	55.32	55.10	54.87
135.1	53.32	53.64	54.08	56.08	55.81	55.55
143.1	53.64	54.05	54.41	56.73	56.29	55.96
151.1	54.53	54.85	55.22	57.72	57.16	56.80
157.1	54.63	54.75	55.14	58.71	58.34	57.75
165.1	55.89	55.94	56.19	60.58	59.89	59.58
173.1	56.58	56.71	57.03	62.23	61.42	61.07
179.1	56.64	56.85	56.94	63.99	63.38	62.80
187.1	56.83	56.67	56.71	64.82	64.44	63.79
195.1	56.57	56.35	56.36	65.92	64.93	64.19
203.1	56.54	56.08	56.10	67.58	66.65	65.72
209.1	56.59	56.33	56.31	68.70	68.25	67.12
217.1	56.89	56.51	56.46	69.79	69.05	68.01
225.1	57.40	56.88	56.51	71.29	70.27	69.22
231.1	57.50	56.75	56.50	71.55	70.74	69.81
239.1	57.73	57.01	56.58	71.44	70.60	69.72
247.1	58.62	57.70	57.22	72.92	73.12	72.05
253.1	59.30	58.19	57.73	73.39	74.35	73.81
261.1	60.24	58.93	58.27	73.23	75.56	75.90
269.1	60.96	59.13	58.59	73.30	75.91	78.16
275.1	60.89	59.02	58.45	74.47	77.06	79.73
283.1	61.03	58.57	58.22	71.32	73.07	74.80
291.1	66.29	64.96	64.03	75.89	83.03	91.47
299.1	62.45	63.27	61.97	74.90	78.14	80.40

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+14	+17	+20
32.1	11.1	38.34	34.29	34.03
38.1	17.1	39.73	37.71	37.09
46.1	25.1	50.49	48.23	42.02
54.1	33.1	47.18	47.73	48.52
60.1	39.1	42.43	41.59	40.23
68.1	47.1	40.99	39.64	38.13
76.1	55.1	43.46	42.59	41.91
82.1	61.1	44.69	44.12	43.85
90.1	69.1	45.03	44.50	44.18
98.1	77.1	45.66	44.81	44.04
104.1	83.1	46.24	45.36	44.49
112.1	91.1	47.55	46.75	46.48
120.1	99.1	48.43	47.85	47.43
128.1	107.1	48.12	47.40	46.35
134.1	113.1	48.24	47.27	46.43
142.1	121.1	49.57	48.89	48.15
150.1	129.1	50.11	50.51	50.35
156.1	135.1	50.04	50.45	51.01
164.1	143.1	50.30	50.39	50.74
172.1	151.1	49.73	48.59	47.68
178.1	157.1	49.09	48.73	46.72
186.1	165.1	51.10	50.30	49.06
194.1	173.1	52.07	51.86	51.15
200.1	179.1	51.20	51.66	52.04
208.1	187.1	51.54	51.80	51.33
216.1	195.1	50.88	50.99	49.79
224.1	203.1	51.16	50.96	50.09
230.1	209.1	51.48	51.39	50.89
238.1	217.1	50.35	50.97	50.27
246.1	225.1	50.15	50.01	50.20
252.1	231.1	50.76	50.46	50.68
260.1	239.1	51.14	50.61	49.85
268.1	247.1	50.84	50.94	49.94
274.1	253.1	50.87	50.72	50.79
282.1	261.1	50.28	50.33	50.25
290.1	269.1	49.65	49.67	49.87
296.1	275.1	50.42	50.90	50.64
304.1	283.1	52.35	52.06	52.00
312.1	291.1	52.17	52.22	51.61
320.1	299.1	51.12	50.88	50.37

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+14	+17	+20
32.1	11.1	3.00	2.86	2.68
38.1	17.1	2.20	2.15	2.09
46.1	25.1	1.65	1.59	1.57
54.1	33.1	1.32	1.28	1.26
60.1	39.1	1.16	1.11	1.09
68.1	47.1	1.13	1.08	1.10
76.1	55.1	1.24	1.22	1.21
82.1	61.1	1.34	1.32	1.30
90.1	69.1	1.52	1.49	1.48
98.1	77.1	1.70	1.67	1.65
104.1	83.1	1.82	1.78	1.76
112.1	91.1	1.95	1.90	1.87
120.1	99.1	2.15	2.08	2.04
128.1	107.1	2.33	2.24	2.20
134.1	113.1	2.50	2.40	2.34
142.1	121.1	2.73	2.62	2.56
150.1	129.1	2.86	2.75	2.67
156.1	135.1	2.99	2.87	2.79
164.1	143.1	3.27	3.13	3.04
172.1	151.1	3.51	3.35	3.24
178.1	157.1	3.69	3.49	3.37
186.1	165.1	4.03	3.79	3.64
194.1	173.1	4.20	3.95	3.79
200.1	179.1	4.34	4.04	3.83
208.1	187.1	4.69	4.35	4.13
216.1	195.1	5.05	4.73	4.49
224.1	203.1	5.26	4.90	4.67
230.1	209.1	5.28	4.93	4.67
238.1	217.1	5.46	5.12	4.85
246.1	225.1	5.88	5.53	5.20
252.1	231.1	6.10	5.73	5.42
260.1	239.1	6.36	5.95	5.58
268.1	247.1	6.64	6.19	5.80
274.1	253.1	6.88	6.38	5.96
282.1	261.1	7.26	6.71	6.23
290.1	269.1	7.72	7.10	6.61
296.1	275.1	7.97	7.32	6.79
304.1	283.1	8.19	7.50	6.96
312.1	291.1	8.40	7.70	7.17
320.1	299.1	8.85	8.11	7.54

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+14	+17	+20
11.1	4.61	4.53	6.51
17.1	5.56	5.85	7.04
25.1	7.81	7.91	8.32
33.1	10.82	9.33	8.39
39.1	8.64	7.81	6.58
47.1	4.97	4.77	4.31
55.1	2.76	2.69	2.61
61.1	1.82	1.80	1.80
69.1	1.18	1.13	1.16
77.1	1.44	1.42	1.22
83.1	1.88	1.78	1.44
91.1	2.27	2.11	1.79
99.1	2.24	2.11	2.01
107.1	1.93	1.93	2.12
113.1	1.80	1.84	2.25
121.1	1.88	1.97	2.59
129.1	2.36	2.46	3.23
135.1	3.05	3.15	3.97
143.1	4.23	4.58	5.16
151.1	6.28	6.39	6.23
157.1	8.67	8.26	6.87
165.1	10.21	9.43	7.22
173.1	9.49	8.50	6.98
179.1	8.13	7.36	6.45
187.1	5.75	5.67	5.53
195.1	4.37	4.41	4.82
203.1	3.66	3.66	4.50
209.1	3.45	3.48	4.53
217.1	3.63	3.65	5.05
225.1	4.30	4.43	6.31
231.1	5.38	5.64	7.99
239.1	7.74	8.54	10.23
247.1	12.26	12.50	11.91
253.1	15.44	15.41	12.55
261.1	19.80	16.73	12.41
269.1	18.38	14.84	10.89
275.1	15.06	12.44	9.59
283.1	9.69	8.75	8.04
291.1	7.11	6.43	6.34
299.1	5.73	5.37	5.71

IF (OUT) (MHz)	IF VSWR @LO=98.1MHz (:1) @LO (dBm)		
	+14	+17	+20
10.1	1.33	1.37	1.41
12.1	1.24	1.29	1.38
14.1	1.27	1.34	1.39
16.1	1.24	1.29	1.37
18.1	1.22	1.30	1.35
20.1	1.21	1.29	1.35
22.1	1.21	1.29	1.35
24.1	1.22	1.28	1.35
26.1	1.25	1.31	1.38
28.1	1.26	1.33	1.40
30.1	1.28	1.35	1.43
32.1	1.30	1.37	1.44
34.1	1.32	1.40	1.46
36.1	1.35	1.42	1.49
38.1	1.37	1.45	1.52
40.1	1.39	1.47	1.53
42.1	1.41	1.50	1.57
44.1	1.43	1.51	1.58
46.1	1.45	1.53	1.60
48.1	1.47	1.54	1.61
50.1	1.48	1.57	1.64
52.1	1.51	1.59	1.66
54.1	1.53	1.61	1.68
56.1	1.55	1.63	1.71
58.1	1.58	1.67	1.74
60.1	1.61	1.69	1.77
62.1	1.65	1.74	1.82
64.1	1.69	1.79	1.87
66.1	1.75	1.85	1.92
68.1	1.81	1.91	2.00
70.1	1.87	1.97	2.06
72.1	1.93	2.05	2.15
74.1	2.00	2.12	2.23
76.1	2.06	2.20	2.32
78.1	2.14	2.29	2.42
80.1	2.20	2.37	2.52
82.1	2.27	2.45	2.60
84.1	2.32	2.52	2.70
86.1	2.39	2.59	2.79
88.1	2.43	2.66	2.86

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	---	---	27.38	21.53	23.88	28.53	30.12	37.20	33.15	46.70	38.23	39.68
1	---	39.43	---	36.91	11.69	38.06	15.17	39.45	17.29	41.49	19.95	51.12
2	102.06	49.64	52.44	56.64	56.15	55.38	49.11	51.94	52.03	55.81	56.67	78.06
3	96.62	89.40	67.25	92.85	68.75	82.93	71.83	75.77	66.97	74.20	67.68	71.97
4	118.30	100.82	114.32	106.86	108.62	99.56	104.66	105.29	94.57	94.84	93.40	94.30
5	117.50	107.23	101.69	110.16	103.79	112.23	100.68	106.98	105.53	106.75	108.32	106.31
6	115.64	109.36	110.19	112.91	112.44	110.30	112.27	109.97	108.08	108.07	108.81	107.33
7	115.94	118.76	108.28	115.96	106.51	115.43	105.80	114.60	108.82	107.50	107.16	107.07
8	117.13	119.00	115.53	118.51	118.89	117.00	115.22	116.63	117.83	110.76	115.88	108.83
9	115.51	117.86	113.66	118.05	108.39	118.34	103.69	117.08	100.17	114.83	92.18	108.16
10	116.60	118.31	119.01	118.58	117.51	119.14	118.47	118.67	118.29	115.03	116.35	111.80
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 113.1 MHz; 0 dBm.**
LO IN: 90.1 MHz; +17 dBm
IF OUT: 23 MHz; -5.97 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	---	---	38.73	36.21	33.41	39.08	36.73	42.55	42.94	45.30	44.65	42.28
1	---	36.73	---	38.52	11.94	39.24	15.57	42.43	17.87	46.47	20.81	45.76
2	81.24	39.62	41.05	48.06	47.43	43.34	39.06	43.04	43.41	49.32	48.14	51.22
3	87.51	66.60	53.07	66.47	54.79	59.08	55.43	55.33	51.39	54.13	52.28	51.62
4	111.99	72.92	81.56	88.27	72.78	68.88	70.99	71.60	68.34	71.56	66.72	68.70
5	114.10	77.92	68.49	80.23	69.12	82.02	73.37	82.31	70.70	81.71	70.82	77.30
6	112.40	86.09	88.43	90.30	93.01	91.01	92.57	99.30	91.50	86.40	83.57	82.59
7	111.43	89.67	87.32	90.12	84.67	92.87	84.76	95.67	92.49	91.42	85.89	90.24
8	111.39	98.79	101.21	98.03	101.71	99.82	102.20	100.26	98.71	96.12	109.71	101.57
9	111.73	110.18	101.62	109.78	102.51	107.63	100.19	105.75	100.27	105.42	94.49	107.87
10	111.85	109.32	110.52	107.26	107.38	105.29	105.49	105.96	106.94	108.52	107.67	106.54
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 113.1 MHz; 10 dBm.**
LO IN: 90.1 MHz; +17 dBm
IF OUT: 23 MHz; 4.03 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