Frequency Mixer RMS-2U+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+4	+7	+10
10.1	40.1	6.67	6.36	6.18
49.6	79.6	6.73	6.43	6.23
89.0	119.0	6.74	6.44	6.27
128.5	158.5	6.92	6.62	6.41
167.9	197.9	7.07	6.74	6.52
207.4	237.4	7.20	6.83	6.58
246.8	276.8	7.40	6.99	6.68
286.3	316.3	7.51	7.07	6.72
325.7	355.7	7.71	7.22	6.82
365.2	395.2	7.86	7.27	6.86
404.6	434.6	7.95	7.33	6.87
444.1	474.1	8.11	7.43	6.94
483.5	513.5	8.16	7.46	6.96
523.0	553.0	8.21	7.49	7.04
562.4	592.4	8.32	7.57	7.10
601.9	631.9	8.42	7.62	7.12
641.3	671.3	8.77	7.90	7.30
680.8	710.8	8.99	8.07	7.44
720.2	750.2	9.20	8.28	7.65
759.7	789.7	9.35	8.46	7.83
799.1	829.1	9.43	8.60	8.03
838.6	868.6	9.47	8.74	8.24
878.0	908.0	9.55	8.91	8.47
917.5	947.5	9.63	9.12	8.74
956.9	986.9	9.70	9.31	9.01
996.4	1026.4	9.72	9.41	9.16
1035.9	1065.9	9.69	9.37	9.17
1075.3	1105.3	9.68	9.37	9.15
1114.8	1144.8	9.67	9.39	9.16
1154.2	1184.2	9.72	9.40	9.21
1193.7	1223.7	9.81	9.44	9.22
1213.4	1243.4	9.83	9.44	9.24
1252.8	1282.8	9.95	9.50	9.32
1272.6	1302.6	10.04	9.52	9.35
1312.0	1342.0	10.25	9.64	9.42
1331.7	1361.7	10.33	9.69	9.47
1371.2	1401.2	10.63	9.82	9.54
1390.9	1420.9	10.77	9.92	9.58
1430.4	1460.4	11.03	10.11	9.69
1450.1	1480.1	11.12	10.20	9.78

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+4	+7	+10
10.1	40.1	13.61	13.49	13.90
49.6	79.6	10.65	10.74	9.87
89.0	119.0	8.88	8.37	9.37
128.5	158.5	7.36	7.70	9.02
167.9	197.9	6.75	7.56	8.98
207.4	237.4	6.33	7.46	9.85
246.8	276.8	5.83	7.79	10.56
286.3	316.3	6.14	8.29	11.64
325.7	355.7	6.08	8.96	12.08
365.2	395.2	6.34	9.77	12.63
404.6	434.6	6.83	9.84	13.38
444.1	474.1	7.65	10.59	13.73
483.5	513.5	8.45	10.63	11.93
523.0	553.0	8.82	10.49	11.21
562.4	592.4	8.57	10.11	10.84
601.9	631.9	7.60	10.33	11.64
641.3	671.3	6.85	9.32	11.53
680.8	710.8	6.47	9.26	11.47
720.2	750.2	6.32	8.96	11.74
759.7	789.7	6.69	9.15	11.36
799.1	829.1	7.24	9.49	11.88
838.6	868.6	8.29	10.73	12.62
878.0	908.0	9.48	10.84	12.63
917.5	947.5	10.18	11.26	12.72
956.9	986.9	10.20	11.70	12.89
996.4	1026.4	10.64	11.07	11.84
1035.9	1065.9	11.84	12.13	13.72
1075.3	1105.3	13.03	12.88	13.74
1114.8	1144.8	14.28	14.61	13.36
1154.2	1184.2	13.78	16.18	15.24
1193.7	1223.7	12.16	15.42	20.09
1213.4	1243.4	13.65	16.30	15.56
1252.8	1282.8	14.13	14.76	15.83
1272.6	1302.6	13.79	17.63	18.30
1312.0	1342.0	14.90	15.94	17.56
1331.7	1361.7	15.65	18.13	19.83
1371.2	1401.2	17.07	16.24	22.60
1390.9	1420.9	16.74	15.76	18.15
1430.4	1460.4	19.44	15.91	16.59
1450.1	1480.1	18.41	19.49	16.83

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB) @LO (dBm)		
		+4	+7	+10
10.1	40.1	0.90	0.69	0.52
49.6	79.6	1.01	0.70	0.55
89.0	119.0	1.06	0.72	0.51
128.5	158.5	1.04	0.79	0.63
167.9	197.9	1.05	0.78	0.64
207.4	237.4	1.11	0.81	0.67
246.8	276.8	1.14	0.94	0.76
286.3	316.3	1.16	0.97	0.83
325.7	355.7	1.24	1.04	0.91
365.2	395.2	1.29	1.12	0.99
404.6	434.6	1.21	1.16	1.04
444.1	474.1	1.33	1.21	1.10
483.5	513.5	1.38	1.26	1.10
523.0	553.0	1.51	1.35	1.16
562.4	592.4	1.45	1.33	1.10
601.9	631.9	1.40	1.31	1.11
641.3	671.3	1.14	1.15	1.01
680.8	710.8	1.05	1.04	0.93
720.2	750.2	0.96	0.97	0.85
759.7	789.7	0.91	0.91	0.86
799.1	829.1	0.91	0.84	0.78
838.6	868.6	0.89	0.78	0.70
878.0	908.0	0.76	0.67	0.62
917.5	947.5	0.66	0.51	0.43
956.9	986.9	0.52	0.37	0.29
996.4	1026.4	0.43	0.26	0.19
1035.9	1065.9	0.39	0.23	0.15
1075.3	1105.3	0.32	0.17	0.13
1114.8	1144.8	0.30	0.14	0.09
1154.2	1184.2	0.26	0.14	0.09
1193.7	1223.7	0.22	0.12	0.10
1213.4	1243.4	0.19	0.11	0.07
1252.8	1282.8	0.20	0.11	0.06
1272.6	1302.6	0.17	0.08	0.08
1312.0	1342.0	0.15	0.11	0.07
1331.7	1361.7	0.11	0.10	0.07
1371.2	1401.2	0.06	0.08	0.07
1390.9	1420.9	0.02	0.07	0.07
1430.4	1460.4	-0.02	0.03	0.06
1450.1	1480.1	-0.03	0.02	0.02

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=500.1MHz (dB)
		@LO (dBm)
		+7
490.0	10.1	6.88
477.7	22.4	6.87
465.4	34.7	6.91
453.1	47.0	6.96
440.8	59.3	7.01
428.5	71.6	7.06
416.2	83.9	7.12
403.8	96.3	7.16
391.5	108.6	7.17
379.2	120.9	7.17
366.9	133.2	7.16
354.6	145.5	7.22
342.3	157.8	7.25
330.0	170.1	7.28
317.7	182.4	7.29
305.4	194.7	7.26
293.1	207.0	7.22
280.8	219.3	7.25
268.5	231.6	7.23
256.2	243.9	7.20
243.8	256.3	7.09
231.5	268.6	7.10
219.2	280.9	7.14
206.9	293.2	7.23
194.6	305.5	7.23
182.3	317.8	7.21
170.0	330.1	7.21
157.7	342.4	7.16
145.4	354.7	7.22
133.1	367.0	7.24
120.8	379.3	7.24
108.5	391.6	7.23
96.2	403.9	7.24
83.8	416.3	7.26
71.5	428.6	7.29
59.2	440.9	7.37
46.9	453.2	7.36
34.6	465.5	7.46
22.3	477.8	7.58
10.0	490.1	7.64

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB)
		@LO (dBm)
		+7
30.2	20.1	6.34
48.9	38.8	6.27
67.6	57.5	6.22
86.4	76.3	6.28
105.1	95.0	6.28
123.8	113.7	6.24
142.5	132.4	6.25
161.2	151.1	6.25
179.9	169.8	6.27
198.7	188.6	6.28
217.4	207.3	6.30
236.1	226.0	6.29
254.8	244.7	6.32
273.5	263.4	6.35
292.3	282.2	6.36
311.0	300.9	6.38
329.7	319.6	6.39
348.4	338.3	6.39
367.1	357.0	6.39
385.8	375.7	6.42
404.6	394.5	6.44
423.3	413.2	6.46
442.0	431.9	6.48
460.7	450.6	6.52
479.4	469.3	6.57
498.1	488.0	6.61
516.9	506.8	6.63
535.6	525.5	6.67
554.3	544.2	6.74
573.0	562.9	6.84
591.7	581.6	6.92
610.5	600.4	6.98
629.2	619.1	7.07
647.9	637.8	7.19
666.6	656.5	7.31
685.3	675.2	7.44
704.0	693.9	7.59
722.8	712.7	7.68
741.5	731.4	7.83
760.2	750.1	7.97

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=760.1MHz (dB)
		@LO (dBm)
		+7
750.0	10.1	8.41
731.0	29.1	8.49
712.1	48.0	8.55
693.1	67.0	8.55
674.1	86.0	8.56
655.1	105.0	8.58
636.2	123.9	8.50
617.2	142.9	8.47
598.2	161.9	8.51
579.2	180.9	8.52
560.3	199.8	8.45
541.3	218.8	8.42
522.3	237.8	8.40
503.3	256.8	8.40
484.4	275.7	8.42
465.4	294.7	8.35
446.4	313.7	8.28
427.4	332.7	8.23
408.5	351.6	8.25
389.5	370.6	8.23
370.5	389.6	7.99
351.5	408.6	8.12
332.6	427.5	8.18
313.6	446.5	8.14
294.6	465.5	8.11
275.6	484.5	8.06
256.7	503.4	7.99
237.7	522.4	7.86
218.7	541.4	7.93
199.7	560.4	7.95
180.8	579.3	8.00
161.8	598.3	8.06
142.8	617.3	8.12
123.8	636.3	8.19
104.9	655.2	8.27
85.9	674.2	8.35
66.9	693.2	8.40
47.9	712.2	8.47
29.0	731.1	8.63
10.0	750.1	8.68

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+4	+7	+10	+4	+7	+10
10.1	68.58	69.69	70.85	56.09	56.86	58.99
49.6	59.22	60.17	60.96	53.47	55.10	56.93
89.0	54.45	55.41	56.25	53.02	54.38	55.58
128.5	51.55	52.55	53.47	52.98	53.99	54.88
167.9	49.35	50.51	51.51	53.29	53.65	53.91
207.4	47.64	48.95	50.09	53.52	53.05	52.70
246.8	46.43	47.82	49.00	53.76	52.63	51.18
286.3	45.29	46.72	47.95	53.80	51.38	49.49
325.7	44.46	45.91	47.31	52.80	49.96	47.85
365.2	43.66	45.14	46.35	51.17	47.71	45.71
404.6	43.05	44.73	46.14	50.10	46.47	44.43
444.1	42.44	44.11	45.67	48.41	45.53	43.64
483.5	41.86	43.30	44.64	46.75	44.31	42.77
523.0	41.45	42.72	43.70	45.08	42.43	40.98
562.4	41.22	42.48	43.33	45.15	41.63	40.04
601.9	40.74	41.96	42.92	45.76	41.73	39.66
641.3	40.49	41.51	42.40	46.22	41.99	39.58
680.8	40.39	41.40	42.31	46.34	42.45	39.95
720.2	40.12	40.92	41.81	45.97	42.37	39.92
759.7	39.66	40.16	40.79	45.58	42.24	39.92
799.1	39.33	39.49	40.00	45.54	41.79	39.53
838.6	38.67	38.78	39.16	45.57	41.48	39.04
878.0	38.13	38.11	38.39	45.33	41.21	38.81
917.5	37.71	37.57	37.76	44.86	40.97	38.46
956.9	37.59	37.42	37.40	45.59	41.27	38.47
996.4	37.69	37.53	37.40	47.47	41.94	38.65
1035.9	37.65	37.40	37.31	50.39	42.77	38.84
1075.3	37.22	37.01	36.93	55.37	43.53	39.02
1114.8	36.90	36.57	36.61	63.00	44.54	39.23
1154.2	36.74	36.20	35.98	57.58	45.50	39.57
1193.7	36.60	35.96	35.61	51.79	46.61	39.86
1213.4	36.68	35.93	35.59	49.86	47.24	40.03
1252.8	36.80	35.93	35.49	47.23	48.10	40.35
1272.6	36.87	35.99	35.55	46.42	48.50	40.42
1312.0	36.79	35.86	35.49	44.53	49.54	40.78
1331.7	36.86	35.85	35.42	43.92	49.66	40.84
1371.2	36.65	35.50	35.04	43.10	49.44	40.93
1390.9	36.55	35.43	34.83	42.52	49.74	41.09
1430.4	36.20	35.20	34.73	41.77	50.05	40.94
1450.1	35.99	34.86	34.46	41.55	50.08	40.93

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+4	+7	+10
10.1	40.1	16.05	16.63	16.86
49.6	79.6	19.57	19.87	20.10
89.0	119.0	20.31	20.48	20.64
128.5	158.5	20.52	20.67	20.80
167.9	197.9	20.69	20.87	21.04
207.4	237.4	21.03	21.21	21.42
246.8	276.8	21.55	21.74	21.91
286.3	316.3	22.31	22.54	22.73
325.7	355.7	23.19	23.49	23.68
365.2	395.2	24.54	25.02	25.40
404.6	434.6	26.31	26.72	27.20
444.1	474.1	28.65	28.66	28.56
483.5	513.5	31.30	30.53	29.65
523.0	553.0	31.70	30.71	29.84
562.4	592.4	29.64	28.54	27.90
601.9	631.9	27.72	26.71	26.09
641.3	671.3	26.05	25.33	24.79
680.8	710.8	24.67	24.21	23.79
720.2	750.2	23.70	23.55	23.32
759.7	789.7	22.87	22.96	23.02
799.1	829.1	22.20	22.45	22.62
838.6	868.6	21.70	22.02	22.24
878.0	908.0	21.21	21.57	21.86
917.5	947.5	20.71	20.99	21.31
956.9	986.9	20.28	20.48	20.72
996.4	1026.4	20.11	20.25	20.39
1035.9	1065.9	20.13	20.20	20.25
1075.3	1105.3	20.06	20.12	20.18
1114.8	1144.8	19.72	19.83	19.89
1154.2	1184.2	19.43	19.49	19.58
1193.7	1223.7	19.10	19.16	19.23
1213.4	1243.4	18.87	18.93	18.98
1252.8	1282.8	18.62	18.66	18.68
1272.6	1302.6	18.45	18.49	18.48
1312.0	1342.0	18.28	18.28	18.29
1331.7	1361.7	18.22	18.22	18.25
1371.2	1401.2	18.26	18.28	18.29
1390.9	1420.9	18.28	18.29	18.39
1430.4	1460.4	18.40	18.46	18.51
1450.1	1480.1	18.42	18.46	18.53

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+4	+7	+10
10.1	40.1	1.32	1.34	1.37
49.6	79.6	1.08	1.09	1.14
89.0	119.0	1.07	1.06	1.09
128.5	158.5	1.10	1.05	1.05
167.9	197.9	1.13	1.07	1.04
207.4	237.4	1.17	1.11	1.08
246.8	276.8	1.25	1.18	1.14
286.3	316.3	1.32	1.25	1.21
325.7	355.7	1.40	1.33	1.28
365.2	395.2	1.49	1.42	1.37
404.6	434.6	1.58	1.50	1.45
444.1	474.1	1.70	1.61	1.55
483.5	513.5	1.81	1.73	1.67
523.0	553.0	1.92	1.84	1.78
562.4	592.4	2.04	1.94	1.89
601.9	631.9	2.16	2.04	1.97
641.3	671.3	2.29	2.16	2.07
680.8	710.8	2.41	2.28	2.17
720.2	750.2	2.51	2.39	2.28
759.7	789.7	2.61	2.50	2.40
799.1	829.1	2.70	2.61	2.52
838.6	868.6	2.78	2.70	2.63
878.0	908.0	2.85	2.80	2.74
917.5	947.5	2.90	2.88	2.84
956.9	986.9	2.92	2.92	2.91
996.4	1026.4	2.89	2.92	2.92
1035.9	1065.9	2.85	2.89	2.90
1075.3	1105.3	2.82	2.85	2.87
1114.8	1144.8	2.80	2.83	2.85
1154.2	1184.2	2.78	2.81	2.83
1193.7	1223.7	2.78	2.79	2.81
1213.4	1243.4	2.77	2.78	2.80
1252.8	1282.8	2.77	2.76	2.77
1272.6	1302.6	2.77	2.75	2.75
1312.0	1342.0	2.75	2.71	2.71
1331.7	1361.7	2.75	2.71	2.69
1371.2	1401.2	2.78	2.70	2.67
1390.9	1420.9	2.78	2.70	2.67
1430.4	1460.4	2.80	2.70	2.65
1450.1	1480.1	2.81	2.72	2.66

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+4	+7	+10
10.1	1.87	2.57	3.62
49.6	1.84	2.69	3.80
89.0	1.76	2.54	3.54
128.5	1.80	2.63	3.68
167.9	1.78	2.56	3.54
207.4	1.80	2.57	3.56
246.8	1.83	2.61	3.59
286.3	1.82	2.55	3.48
325.7	1.87	2.62	3.57
365.2	1.88	2.59	3.50
404.6	1.89	2.60	3.50
444.1	1.92	2.61	3.50
483.5	1.93	2.59	3.44
523.0	1.96	2.61	3.46
562.4	1.98	2.60	3.41
601.9	2.00	2.62	3.42
641.3	2.01	2.62	3.39
680.8	2.01	2.60	3.35
720.2	2.01	2.59	3.34
759.7	1.99	2.55	3.27
799.1	1.99	2.53	3.25
838.6	1.97	2.50	3.19
878.0	1.97	2.48	3.16
917.5	2.01	2.48	3.15
956.9	2.04	2.48	3.11
996.4	2.10	2.50	3.12
1035.9	2.17	2.52	3.10
1075.3	2.21	2.52	3.06
1114.8	2.27	2.53	3.05
1154.2	2.32	2.53	3.02
1193.7	2.36	2.51	2.95
1213.4	2.39	2.52	2.95
1252.8	2.47	2.53	2.92
1272.6	2.48	2.52	2.89
1312.0	2.54	2.52	2.85
1331.7	2.57	2.53	2.85
1371.2	2.62	2.54	2.81
1390.9	2.64	2.53	2.78
1430.4	2.69	2.55	2.75
1450.1	2.70	2.56	2.75

IF (OUT) (MHz)	IF VSWR @LO=760.1MHz (:1) @LO (dBm)		
	+4	+7	+10
10.1	1.62	1.44	1.52
29.1	1.29	1.27	1.31
48.0	1.28	1.20	1.26
67.0	1.20	1.15	1.21
86.0	1.20	1.14	1.21
105.0	1.22	1.13	1.19
123.9	1.22	1.12	1.20
142.9	1.20	1.14	1.22
161.9	1.18	1.13	1.21
180.9	1.16	1.13	1.23
199.8	1.15	1.13	1.25
218.8	1.14	1.13	1.25
237.8	1.12	1.14	1.26
256.8	1.12	1.14	1.27
275.7	1.13	1.16	1.29
294.7	1.13	1.19	1.33
313.7	1.13	1.23	1.37
332.7	1.12	1.25	1.40
351.6	1.10	1.26	1.41
370.6	1.10	1.26	1.41
389.6	1.12	1.27	1.43
408.6	1.14	1.31	1.47
427.5	1.18	1.35	1.52
446.5	1.21	1.39	1.56
465.5	1.24	1.43	1.60
484.5	1.26	1.45	1.63
503.4	1.29	1.47	1.65
522.4	1.32	1.52	1.70
541.4	1.37	1.56	1.75
560.4	1.41	1.61	1.80
579.3	1.45	1.65	1.84
598.3	1.49	1.69	1.88
617.3	1.55	1.74	1.92
636.3	1.59	1.80	1.98
655.2	1.65	1.86	2.04
674.2	1.71	1.92	2.10
693.2	1.77	1.98	2.16
712.2	1.83	2.04	2.22
731.1	1.91	2.12	2.31
750.1	2.00	2.22	2.42

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	12	30	13	37	24	35	27	47	48	58
1	-	24	+0	34	15	43	45	32	32	49	53	55
2	103	58	50	55	52	59	56	78	59	67	60	71
3	117	70	56	66	54	65	58	75	69	66	63	78
4	118	93	84	81	76	78	76	83	83	92	77	85
5	123	114	110	105	94	99	89	91	92	101	108	91
6	124	103	103	102	107	99	104	91	95	98	106	100
7	109	100	106	100	96	100	97	95	91	104	101	102
8	124	101	101	125	98	100	99	94	84	96	110	102
9	107	116	104	106	98	103	102	102	111	93	90	101
10	117	111	104	109	105	102	101	106	99	97	97	110
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 500.1 MHz; -14.00 dBm.**
LO IN: 530.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -21.37 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	21	38	23	49	35	47	43	63	74	73
1	-	23	+0	30	16	58	44	35	38	57	58	69
2	99	56	40	57	45	62	48	77	54	59	58	70
3	116	48	36	45	43	55	50	55	53	52	47	66
4	121	72	63	65	59	61	64	62	65	71	63	74
5	118	58	76	61	54	61	48	54	55	70	70	58
6	118	76	80	80	95	72	65	66	65	71	72	76
7	120	75	59	66	77	75	60	63	64	67	69	75
8	113	91	82	78	87	98	82	78	81	72	77	75
9	112	95	86	87	75	85	94	84	83	76	79	73
10	123	99	98	98	87	94	93	92	88	82	80	79
	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; +7.00 dBm
IF OUT: 29.91 MHz; -11.46 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.