Frequency Mixer RMS-25MH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+10	+13	+16
5.0	35.0	6.95	6.60	6.44
10.1	40.1	6.82	6.47	6.33
90.4	120.4	7.27	6.95	6.79
170.7	200.7	7.33	7.01	6.85
250.9	280.9	7.42	7.10	6.92
331.2	361.2	7.49	7.16	6.93
411.5	441.5	7.58	7.22	6.94
491.8	521.8	7.70	7.22	6.90
572.0	602.0	7.77	7.23	6.92
652.3	682.3	7.83	7.28	6.93
732.6	762.6	7.86	7.24	6.92
812.9	842.9	7.75	7.15	6.87
893.2	923.2	7.71	7.13	6.91
973.4	1003.4	7.77	7.29	7.07
1053.7	1083.7	7.94	7.47	7.28
1134.0	1164.0	8.06	7.63	7.43
1214.3	1244.3	8.07	7.68	7.48
1294.5	1324.5	8.02	7.63	7.45
1354.8	1384.8	8.04	7.63	7.45
1435.0	1465.0	8.05	7.62	7.43
1495.2	1525.2	8.03	7.58	7.36
1575.5	1605.5	7.98	7.47	7.26
1635.7	1665.7	7.94	7.39	7.18
1716.0	1746.0	8.02	7.41	7.18
1776.2	1806.2	8.12	7.43	7.18
1856.5	1886.5	8.15	7.47	7.21
1916.7	1946.7	8.07	7.40	7.17
1997.0	2027.0	8.00	7.38	7.17
2057.2	2087.2	8.03	7.43	7.22
2137.5	2167.5	8.11	7.56	7.36
2197.7	2227.7	8.25	7.73	7.52
2277.9	2307.9	8.42	7.89	7.73
2338.2	2368.2	8.45	7.96	7.82
2418.4	2448.4	8.59	8.17	8.01
2558.9	2588.9	9.12	8.69	8.57
2619.1	2649.1	9.36	8.97	8.87
2699.4	2729.4	9.60	9.25	9.18
2759.6	2789.6	9.70	9.39	9.31
2839.9	2869.9	9.92	9.66	9.56
2900.1	2930.1	10.18	9.92	9.84

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+10	+13	+16
10.1	40.1	24.53	32.08	28.48
90.4	120.4	25.22	24.32	25.43
170.7	200.7	23.64	22.60	22.53
250.9	280.9	20.30	19.91	21.05
331.2	361.2	18.51	19.12	22.18
411.5	441.5	17.64	19.30	22.71
491.8	521.8	17.45	20.78	21.92
572.0	602.0	16.92	20.31	21.87
652.3	682.3	17.06	19.70	21.39
732.6	762.6	17.32	19.58	21.53
812.9	842.9	17.21	20.41	22.83
893.2	923.2	16.85	20.05	21.02
973.4	1003.4	17.29	18.70	19.66
1053.7	1083.7	17.45	19.17	20.08
1134.0	1164.0	17.54	19.47	20.65
1214.3	1244.3	18.15	19.96	21.55
1294.5	1324.5	17.44	19.34	20.88
1354.8	1384.8	17.06	18.67	20.38
1435.0	1465.0	16.40	18.01	19.39
1495.2	1525.2	16.08	17.76	19.09
1575.5	1605.5	15.35	17.11	18.36
1635.7	1665.7	15.20	16.59	18.16
1716.0	1746.0	15.00	15.94	17.27
1776.2	1806.2	14.55	15.80	16.91
1856.5	1886.5	14.06	15.31	16.57
1916.7	1946.7	14.07	15.38	16.75
1997.0	2027.0	13.96	15.57	16.97
2057.2	2087.2	13.92	15.48	17.07
2137.5	2167.5	14.01	15.51	17.16
2197.7	2227.7	14.07	15.51	16.95
2277.9	2307.9	13.91	15.31	16.75
2338.2	2368.2	14.27	15.83	17.24
2418.4	2448.4	14.18	15.68	17.30
2478.6	2508.6	14.21	15.56	17.27
2558.9	2588.9	14.88	16.21	17.66
2619.1	2649.1	16.04	16.97	18.16
2699.4	2729.4	18.17	18.14	18.57
2759.6	2789.6	19.49	18.69	18.69
2839.9	2869.9	21.39	19.74	18.57
2900.1	2930.1	22.70	21.06	19.50

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+9dBm (dB) @LO (dBm)		
		+10	+13	+16
10.1	40.1	1.52	0.96	0.63
90.4	120.4	1.34	0.96	0.65
170.7	200.7	1.32	0.95	0.67
250.9	280.9	1.41	1.01	0.69
331.2	361.2	1.43	1.01	0.72
411.5	441.5	1.38	1.00	0.76
491.8	521.8	1.37	1.09	0.83
572.0	602.0	1.41	1.12	0.88
652.3	682.3	1.38	1.14	0.91
732.6	762.6	1.40	1.21	0.97
812.9	842.9	1.51	1.35	1.09
893.2	923.2	1.59	1.42	1.13
973.4	1003.4	1.56	1.32	1.10
1053.7	1083.7	1.44	1.15	0.94
1134.0	1164.0	1.32	1.06	0.79
1214.3	1244.3	1.37	1.00	0.74
1294.5	1324.5	1.45	1.04	0.79
1354.8	1384.8	1.38	0.99	0.78
1435.0	1465.0	1.31	0.97	0.80
1495.2	1525.2	1.32	0.98	0.83
1575.5	1605.5	1.33	1.04	0.86
1635.7	1665.7	1.31	1.04	0.91
1716.0	1746.0	1.29	1.02	0.88
1776.2	1806.2	1.29	1.07	0.90
1856.5	1886.5	1.22	1.01	0.84
1916.7	1946.7	1.24	1.03	0.86
1997.0	2027.0	1.28	0.99	0.83
2057.2	2087.2	1.25	0.91	0.77
2137.5	2167.5	1.20	0.85	0.71
2197.7	2227.7	1.19	0.85	0.68
2277.9	2307.9	1.13	0.76	0.60
2338.2	2368.2	1.12	0.74	0.58
2418.4	2448.4	1.06	0.72	0.55
2478.6	2508.6	1.14	0.75	0.56
2558.9	2588.9	1.04	0.67	0.52
2619.1	2649.1	0.98	0.65	0.51
2699.4	2729.4	0.99	0.63	0.52
2759.6	2789.6	1.04	0.62	0.54
2839.9	2869.9	0.98	0.61	0.53
2900.1	2930.1	0.97	0.61	0.52

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1250.1MHz (dB) @LO (dBm) +13
1240.0	10.1	7.75
1199.7	50.4	7.80
1159.3	90.8	7.83
1119.0	131.1	7.84
1078.7	171.4	7.88
1038.4	211.7	7.87
998.0	252.1	7.91
977.9	272.2	7.94
937.5	312.6	7.86
917.4	332.7	7.95
877.0	373.1	8.00
856.9	393.2	7.97
816.6	433.5	7.98
796.4	453.7	7.95
756.1	494.0	7.90
735.9	514.2	7.87
695.6	554.5	7.84
675.4	574.7	7.85
635.1	615.0	7.82
614.9	635.2	7.80
574.6	675.5	7.82
554.4	695.7	7.76
514.1	736.0	7.77
493.9	756.2	7.73
453.6	796.5	7.73
433.4	816.7	7.74
393.1	857.0	7.75
373.0	877.1	7.71
332.6	917.5	7.75
312.5	937.6	7.75
272.1	978.0	7.76
252.0	998.1	7.76
211.6	1038.5	7.80
191.5	1058.6	7.84
151.1	1099.0	7.84
131.0	1119.1	7.86
90.7	1159.4	7.86
70.5	1179.6	7.79
30.2	1219.9	7.74
10.0	1240.1	7.91

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB) @LO (dBm) +13
10.0	20.1	6.62
50.8	60.9	6.73
91.6	101.7	6.79
132.5	142.6	6.76
173.3	183.4	6.81
214.1	224.2	6.75
254.9	265.0	6.75
295.8	305.9	6.72
336.6	346.7	6.68
377.4	387.5	6.67
418.2	428.3	6.65
459.0	469.1	6.65
499.9	510.0	6.61
540.7	550.8	6.60
581.5	591.6	6.61
622.3	632.4	6.61
663.2	673.3	6.66
704.0	714.1	6.70
744.8	754.9	6.71
785.6	795.7	6.73
826.4	836.5	6.72
867.3	877.4	6.74
908.1	918.2	6.73
948.9	959.0	6.80
989.7	999.8	6.89
1030.5	1040.6	6.95
1071.4	1081.5	7.05
1112.2	1122.3	7.13
1153.0	1163.1	7.23
1193.8	1203.9	7.32
1234.7	1244.8	7.42
1255.1	1265.2	7.47
1295.9	1306.0	7.59
1316.3	1326.4	7.62
1357.1	1367.2	7.74
1377.5	1387.6	7.74
1418.4	1428.5	7.82
1438.8	1448.9	7.82
1479.6	1489.7	7.87
1500.0	1510.1	7.88

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2500.1MHz (dB) @LO (dBm) +13
1500.0	1000.1	8.53
1459.2	1040.9	8.48
1418.4	1081.7	8.39
1377.5	1122.6	8.34
1336.7	1163.4	8.29
1295.9	1204.2	8.24
1255.1	1245.0	8.21
1214.2	1285.9	8.12
1173.4	1326.7	8.08
1132.6	1367.5	8.06
1091.8	1408.3	8.02
1051.0	1449.1	8.01
1010.1	1490.0	7.95
969.3	1530.8	7.97
928.5	1571.6	7.98
887.7	1612.4	7.98
846.8	1653.3	7.97
806.0	1694.1	7.94
765.2	1734.9	7.98
724.4	1775.7	7.98
683.6	1816.5	8.01
642.7	1857.4	8.00
601.9	1898.2	7.98
561.1	1939.0	7.98
520.3	1979.8	7.95
479.5	2020.6	7.99
438.6	2061.5	7.96
397.8	2102.3	8.02
357.0	2143.1	8.01
316.2	2183.9	8.06
275.3	2224.8	8.14
254.9	2245.2	8.13
214.1	2286.0	8.18
193.7	2306.4	8.20
152.9	2347.2	8.24
132.5	2367.6	8.26
91.6	2408.5	8.32
71.2	2428.9	8.34
30.4	2469.7	8.34
10.0	2490.1	8.60

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+10	+13	+16	+10	+13	+16
5.0	39.24	43.66	47.26	28.54	31.16	33.31
10.1	43.96	48.02	53.10	30.47	33.66	36.35
90.4	50.68	49.59	47.01	30.43	33.08	35.00
170.7	46.88	43.20	41.16	30.13	32.06	33.05
250.9	42.96	39.73	38.30	30.29	31.74	32.32
331.2	40.33	37.59	36.27	31.05	31.93	31.78
411.5	38.67	36.05	34.76	31.89	31.97	31.16
491.8	37.14	34.99	33.97	32.48	31.71	30.62
572.0	36.05	34.24	33.14	32.73	31.19	29.80
652.3	35.53	33.64	32.68	32.92	30.66	29.24
732.6	34.88	33.54	32.67	32.64	30.23	28.89
812.9	34.87	33.78	32.96	32.10	29.77	28.69
893.2	35.60	34.52	33.58	31.52	29.41	28.23
973.4	36.22	35.46	34.57	31.18	29.06	28.00
1053.7	36.42	36.37	35.72	31.43	29.36	28.14
1134.0	37.63	37.85	37.20	31.98	29.71	28.34
1214.3	39.19	39.70	39.22	33.45	30.79	29.11
1294.5	42.33	43.61	43.11	35.09	32.03	30.07
1354.8	46.06	50.38	50.06	35.77	32.84	30.76
1435.0	53.52	56.79	53.62	35.34	33.26	31.37
1495.2	61.06	45.81	44.16	34.50	33.21	31.77
1575.5	46.32	40.23	38.73	33.28	32.86	31.99
1635.7	41.97	37.75	36.37	32.42	32.78	32.55
1716.0	37.84	34.86	33.59	31.33	32.25	32.92
1776.2	35.69	33.39	32.39	30.61	31.80	33.06
1856.5	33.27	31.89	31.17	30.32	32.08	34.14
1916.7	31.85	30.79	30.28	30.31	32.48	35.35
1997.0	29.96	29.49	29.30	30.39	33.06	36.60
2057.2	28.69	28.39	28.34	30.51	33.13	36.37
2137.5	27.46	27.06	27.01	30.51	32.55	34.71
2197.7	26.54	26.17	26.18	30.61	32.24	33.61
2277.9	25.46	25.24	25.28	30.77	31.85	32.54
2338.2	24.97	24.72	24.82	30.62	31.31	31.78
2418.4	24.51	24.36	24.33	29.88	30.34	30.73
2558.9	23.24	23.34	23.53	28.61	29.25	29.79
2619.1	22.71	22.92	23.11	28.11	28.85	29.47
2699.4	22.41	22.51	22.89	27.81	28.26	29.02
2759.6	22.28	22.48	22.75	27.94	28.26	28.77
2839.9	21.94	22.23	22.50	27.97	28.30	28.70
2900.1	21.87	22.14	22.38	28.16	28.35	28.68

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+10	+13	+16
10.1	40.1	21.47	21.15	21.32
90.4	120.4	21.67	21.62	21.65
170.7	200.7	22.24	22.29	22.29
250.9	280.9	23.19	23.15	23.22
331.2	361.2	24.33	24.30	24.52
411.5	441.5	25.90	25.91	26.16
491.8	521.8	28.31	28.32	28.62
572.0	602.0	31.64	31.81	32.09
652.3	682.3	36.11	36.05	36.21
732.6	762.6	47.14	41.88	37.77
812.9	842.9	39.56	36.66	33.62
893.2	923.2	33.83	33.65	32.73
973.4	1003.4	30.73	30.64	30.07
1053.7	1083.7	28.02	28.13	27.66
1134.0	1164.0	25.65	25.61	25.20
1214.3	1244.3	23.81	23.74	23.47
1294.5	1324.5	22.76	22.84	22.70
1354.8	1384.8	22.31	22.39	22.35
1435.0	1465.0	21.79	22.00	21.99
1495.2	1525.2	21.45	21.75	21.84
1575.5	1605.5	21.03	21.46	21.65
1635.7	1665.7	20.99	21.64	21.78
1716.0	1746.0	21.19	22.00	22.34
1776.2	1806.2	20.70	21.31	21.65
1856.5	1886.5	20.09	20.37	20.62
1916.7	1946.7	19.78	19.88	20.02
1997.0	2027.0	19.38	19.44	19.48
2057.2	2087.2	19.09	19.11	19.10
2137.5	2167.5	18.67	18.57	18.55
2197.7	2227.7	18.45	18.32	18.31
2277.9	2307.9	18.15	17.96	17.87
2338.2	2368.2	18.17	17.89	17.71
2418.4	2448.4	18.31	17.96	17.65
2478.6	2508.6	18.57	18.04	17.69
2558.9	2588.9	18.92	18.20	17.74
2619.1	2649.1	19.26	18.35	17.84
2699.4	2729.4	19.66	18.73	18.14
2759.6	2789.6	19.97	18.92	18.38
2839.9	2869.9	19.54	18.77	18.25
2900.1	2930.1	19.03	18.41	18.04

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+10	+13	+16
5.0	35.0	1.79	1.43	1.31
10.1	40.1	1.77	1.42	1.28
90.4	120.4	1.02	1.12	1.19
170.7	200.7	1.03	1.07	1.13
250.9	280.9	1.09	1.05	1.08
331.2	361.2	1.16	1.10	1.09
411.5	441.5	1.23	1.17	1.14
491.8	521.8	1.33	1.26	1.22
572.0	602.0	1.44	1.36	1.30
652.3	682.3	1.58	1.48	1.41
732.6	762.6	1.72	1.60	1.52
812.9	842.9	1.84	1.69	1.59
893.2	923.2	1.98	1.80	1.70
973.4	1003.4	2.14	1.96	1.86
1053.7	1083.7	2.27	2.09	1.99
1134.0	1164.0	2.39	2.21	2.11
1214.3	1244.3	2.44	2.27	2.16
1294.5	1324.5	2.49	2.31	2.20
1354.8	1384.8	2.53	2.34	2.23
1435.0	1465.0	2.57	2.36	2.25
1495.2	1525.2	2.59	2.35	2.22
1575.5	1605.5	2.59	2.33	2.20
1635.7	1665.7	2.56	2.29	2.15
1716.0	1746.0	2.57	2.26	2.10
1776.2	1806.2	2.56	2.25	2.07
1856.5	1886.5	2.49	2.18	2.02
1916.7	1946.7	2.42	2.13	1.96
1997.0	2027.0	2.35	2.06	1.90
2057.2	2087.2	2.30	2.03	1.89
2137.5	2167.5	2.23	1.98	1.87
2197.7	2227.7	2.18	1.96	1.86
2277.9	2307.9	2.16	1.94	1.86
2338.2	2368.2	2.15	1.95	1.88
2418.4	2448.4	2.19	2.02	1.97
2478.6	2508.6	2.21	2.08	2.04
2558.9	2588.9	2.22	2.14	2.13
2619.1	2649.1	2.24	2.19	2.19
2699.4	2729.4	2.28	2.26	2.28
2759.6	2789.6	2.34	2.34	2.37
2839.9	2869.9	2.41	2.45	2.49
2900.1	2930.1	2.45	2.51	2.55

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+10	+13	+16
5.0	1.48	2.14	2.87
10.1	1.43	2.07	2.77
90.4	1.53	2.17	2.96
170.7	1.52	2.15	2.92
250.9	1.53	2.15	2.91
331.2	1.54	2.13	2.86
411.5	1.54	2.08	2.77
491.8	1.54	2.03	2.67
572.0	1.55	1.99	2.59
652.3	1.53	1.95	2.52
732.6	1.50	1.88	2.43
812.9	1.47	1.80	2.33
893.2	1.47	1.74	2.24
973.4	1.50	1.70	2.16
1053.7	1.58	1.69	2.10
1134.0	1.64	1.65	2.01
1214.3	1.71	1.61	1.91
1294.5	1.82	1.60	1.83
1354.8	1.90	1.61	1.79
1435.0	1.99	1.60	1.71
1495.2	2.02	1.57	1.63
1575.5	2.06	1.55	1.54
1635.7	2.10	1.53	1.49
1716.0	2.13	1.50	1.40
1776.2	2.14	1.48	1.32
1856.5	2.18	1.46	1.23
1916.7	2.23	1.46	1.17
1997.0	2.27	1.46	1.09
2057.2	2.29	1.48	1.06
2137.5	2.33	1.50	1.07
2197.7	2.35	1.51	1.12
2277.9	2.33	1.53	1.21
2338.2	2.33	1.56	1.26
2418.4	2.31	1.58	1.34
2478.6	2.29	1.61	1.42
2558.9	2.26	1.65	1.51
2619.1	2.25	1.67	1.57
2699.4	2.22	1.73	1.68
2759.6	2.15	1.74	1.75
2839.9	2.11	1.78	1.84
2900.1	2.06	1.80	1.90

IF (OUT) (MHz)	IF VSWR @LO=2500.1MHz (:1) @LO (dBm)		
	+10	+13	+16
5.0	1.21	1.32	1.37
10.1	1.13	1.34	1.23
50.4	1.14	1.24	1.28
90.6	1.09	1.20	1.23
130.9	1.14	1.18	1.22
171.2	1.15	1.20	1.23
211.5	1.16	1.18	1.21
251.7	1.21	1.22	1.24
292.0	1.20	1.20	1.21
332.3	1.23	1.22	1.22
372.5	1.25	1.22	1.22
412.8	1.27	1.22	1.21
453.1	1.27	1.21	1.20
493.3	1.30	1.22	1.20
533.6	1.29	1.21	1.19
573.9	1.30	1.19	1.17
614.2	1.31	1.21	1.18
654.4	1.30	1.18	1.16
694.7	1.35	1.23	1.19
735.0	1.32	1.21	1.19
775.2	1.34	1.20	1.17
815.5	1.39	1.26	1.22
855.8	1.34	1.21	1.17
896.0	1.42	1.27	1.21
936.3	1.39	1.25	1.21
976.6	1.39	1.23	1.17
1016.9	1.45	1.29	1.22
1057.1	1.38	1.22	1.16
1097.4	1.45	1.28	1.19
1137.7	1.43	1.27	1.19
1177.9	1.40	1.24	1.15
1218.2	1.45	1.28	1.18
1258.5	1.40	1.23	1.14
1298.7	1.44	1.27	1.17
1318.9	1.47	1.29	1.18
1359.2	1.44	1.27	1.17
1379.3	1.42	1.26	1.16
1419.6	1.45	1.28	1.18
1439.7	1.48	1.31	1.20
1480.0	1.44	1.28	1.18
1500.1	1.44	1.28	1.18

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	5	16	18	17	25	30	34	53	45	51
1	-	16	+0	27	17	35	21	30	30	56	42	46
2	87	58	54	63	59	59	54	50	76	67	68	68
3	>100	69	55	65	57	65	56	68	66	67	78	85
4	>100	>86	83	85	83	>86	82	>86	>86	>86	>86	>86
5	>100	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86
6	>100	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86
7	>100	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86
8	>100	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86
9	>100	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86
10	>100	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 1250.1 MHz; -6.00 dBm.**
LO IN: 1280.01 MHz; +13.00 dBm
IF OUT: 29.91 MHz; -13.88 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	15	25	27	29	35	41	48	70	53	65
1	-	16	+0	27	16	38	21	34	31	65	45	56
2	77	47	44	48	53	54	43	43	49	62	59	63
3	>100	44	36	46	40	49	40	51	57	48	58	71
4	>100	67	54	64	59	65	73	64	74	61	65	78
5	>100	63	64	61	60	61	55	61	56	64	65	62
6	91	79	75	67	68	71	68	76	75	74	74	72
7	98	88	91	74	70	81	73	72	72	70	67	69
8	>100	>96	87	85	84	78	77	85	77	83	78	85
9	>100	>96	96	>96	95	88	82	85	86	89	91	90
10	96	>96	>96	>96	>96	>96	94	87	85	90	90	90
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 1250.1 MHz; 4.00 dBm.**
LO IN: 1280.01 MHz; +13.00 dBm
IF OUT: 29.91 MHz; -3.93 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.