Frequency Mixer SRA-11H+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+14	+17	+20
10.1	40.1	7.43	7.22	7.16
90.4	120.4	7.96	7.74	7.68
170.6	200.6	7.99	7.78	7.71
250.9	280.9	8.06	7.84	7.73
331.1	361.1	8.09	7.85	7.74
411.4	441.4	8.14	7.89	7.78
491.6	521.6	8.10	7.86	7.76
571.9	601.9	8.16	7.93	7.81
652.1	682.1	8.26	8.01	7.90
732.4	762.4	8.27	8.02	7.91
812.6	842.6	8.25	8.04	7.93
892.9	922.9	8.32	8.12	8.03
973.1	1003.1	8.39	8.18	8.08
1053.4	1083.4	8.49	8.29	8.20
1133.6	1163.6	8.56	8.33	8.24
1213.9	1243.9	8.64	8.39	8.27
1294.1	1324.1	8.68	8.45	8.35
1374.4	1404.4	8.75	8.48	8.39
1454.6	1484.6	9.00	8.67	8.55
1534.9	1564.9	9.18	8.87	8.75
1615.1	1645.1	9.28	8.98	8.86
1695.4	1725.4	9.40	9.08	8.96
1775.6	1805.6	9.51	9.15	9.03
1855.9	1885.9	9.65	9.28	9.15
1936.1	1966.1	9.86	9.42	9.25
2016.4	2046.4	10.13	9.65	9.42
2096.6	2126.6	10.41	9.87	9.61
2176.9	2206.9	10.63	10.05	9.77
2257.1	2287.1	10.72	10.15	9.83
2337.4	2367.4	10.78	10.20	9.85
2417.6	2447.6	10.86	10.32	10.00
2497.9	2527.9	11.03	10.46	10.17
2578.2	2608.2	11.24	10.71	10.41
2658.4	2688.4	11.37	10.89	10.61
2738.7	2768.7	11.50	11.06	10.78
2839.0	2869.0	11.68	11.25	10.96
2919.2	2949.2	11.60	11.16	10.85
3019.5	3049.5	11.59	11.10	10.84
3099.8	3129.8	11.58	11.07	10.79
3200.1	3230.1	11.64	11.08	10.78

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+14	+17	+20
10.1	40.1	28.50	27.73	27.68
90.4	120.4	25.93	30.61	32.92
170.6	200.6	29.53	33.61	26.48
250.9	280.9	27.91	25.82	25.06
331.1	361.1	26.58	23.68	28.72
411.4	441.4	23.69	24.82	28.36
491.6	521.6	23.01	31.69	31.24
571.9	601.9	25.39	33.10	32.70
652.1	682.1	27.64	31.99	33.51
732.4	762.4	24.17	27.34	33.47
812.6	842.6	31.56	33.48	31.60
892.9	922.9	28.26	31.61	33.21
973.1	1003.1	26.84	29.98	31.95
1053.4	1083.4	27.12	31.53	31.07
1133.6	1163.6	23.54	25.58	26.19
1213.9	1243.9	23.67	24.07	24.90
1294.1	1324.1	27.02	27.13	27.51
1374.4	1404.4	25.15	27.24	28.37
1454.6	1484.6	26.11	26.89	28.63
1534.9	1564.9	25.19	25.46	24.24
1615.1	1645.1	23.48	23.17	22.92
1695.4	1725.4	24.12	24.93	25.18
1775.6	1805.6	22.86	23.97	25.52
1855.9	1885.9	23.83	25.53	27.62
1936.1	1966.1	24.60	28.25	31.26
2016.4	2046.4	24.48	25.32	28.19
2096.6	2126.6	24.49	23.47	24.90
2176.9	2206.9	22.08	21.53	22.55
2257.1	2287.1	21.71	21.20	22.62
2337.4	2367.4	21.87	21.33	22.27
2417.6	2447.6	22.95	22.69	22.03
2497.9	2527.9	25.20	27.80	24.85
2578.2	2608.2	27.59	28.45	25.81
2658.4	2688.4	29.27	24.96	23.53
2738.7	2768.7	26.20	22.91	22.09
2839.0	2869.0	22.61	22.15	22.23
2919.2	2949.2	21.79	21.90	21.92
3019.5	3049.5	20.09	20.84	21.08
3099.8	3129.8	18.89	19.52	19.92
3200.1	3230.1	17.80	18.36	19.01

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+10dBm (dB) @LO (dBm)		
		+14	+17	+20
10.1	40.1	0.46	0.21	0.10
90.4	120.4	0.29	0.14	0.07
170.6	200.6	0.30	0.14	0.08
250.9	280.9	0.29	0.14	0.07
331.1	361.1	0.27	0.14	0.06
411.4	441.4	0.31	0.16	0.06
491.6	521.6	0.35	0.15	0.07
571.9	601.9	0.35	0.15	0.07
652.1	682.1	0.33	0.13	0.06
732.4	762.4	0.38	0.15	0.08
812.6	842.6	0.39	0.16	0.10
892.9	922.9	0.40	0.17	0.10
973.1	1003.1	0.34	0.17	0.11
1053.4	1083.4	0.32	0.13	0.09
1133.6	1163.6	0.33	0.15	0.09
1213.9	1243.9	0.34	0.16	0.10
1294.1	1324.1	0.35	0.18	0.11
1374.4	1404.4	0.37	0.21	0.13
1454.6	1484.6	0.34	0.22	0.15
1534.9	1564.9	0.33	0.19	0.12
1615.1	1645.1	0.34	0.18	0.12
1695.4	1725.4	0.36	0.20	0.16
1775.6	1805.6	0.38	0.21	0.18
1855.9	1885.9	0.41	0.22	0.17
1936.1	1966.1	0.38	0.24	0.20
2016.4	2046.4	0.31	0.23	0.21
2096.6	2126.6	0.25	0.21	0.20
2176.9	2206.9	0.26	0.20	0.20
2257.1	2287.1	0.27	0.25	0.24
2337.4	2367.4	0.33	0.31	0.29
2417.6	2447.6	0.38	0.31	0.28
2497.9	2527.9	0.38	0.27	0.24
2578.2	2608.2	0.32	0.21	0.19
2658.4	2688.4	0.33	0.20	0.18
2738.7	2768.7	0.35	0.23	0.19
2839.0	2869.0	0.44	0.27	0.22
2919.2	2949.2	0.53	0.33	0.26
3019.5	3049.5	0.74	0.41	0.29
3099.8	3129.8	0.83	0.46	0.31
3200.1	3230.1	0.87	0.50	0.35

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1500.1MHz (dB) @LO (dBm) +17
1480.0	20.1	8.41
1439.7	60.4	8.61
1399.5	100.6	8.47
1359.2	140.9	8.46
1318.9	181.2	8.52
1278.6	221.5	8.57
1238.4	261.7	8.56
1198.1	302.0	8.60
1157.8	342.3	8.53
1117.5	382.6	8.52
1077.3	422.8	8.48
1037.0	463.1	8.47
996.7	503.4	8.42
956.4	543.7	8.38
916.2	583.9	8.38
875.9	624.2	8.31
835.6	664.5	8.32
795.3	704.8	8.42
755.1	745.0	8.32
714.8	785.3	8.23
674.5	825.6	8.26
634.2	865.9	8.32
594.0	906.1	8.41
553.7	946.4	8.38
513.4	986.7	8.34
473.2	1026.9	8.30
432.9	1067.2	8.30
392.6	1107.5	8.32
352.3	1147.8	8.29
312.1	1188.0	8.37
271.8	1228.3	8.38
251.6	1248.5	8.47
211.4	1288.7	8.46
191.2	1308.9	8.49
151.0	1349.1	8.52
130.8	1369.3	8.45
90.5	1409.6	8.58
70.4	1429.7	8.51
30.1	1470.0	8.66
10.0	1490.1	9.17

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB) @LO (dBm) +17
10.0	20.1	7.76
110.5	120.6	7.09
211.1	221.2	7.02
311.6	321.7	6.97
412.2	422.3	6.93
512.7	522.8	6.88
613.3	623.4	6.86
713.8	723.9	6.70
814.4	824.5	6.78
914.9	925.0	6.59
1015.5	1025.6	6.77
1116.0	1126.1	6.71
1216.6	1226.7	6.63
1317.1	1327.2	6.65
1417.7	1427.8	6.60
1518.2	1528.3	6.84
1598.6	1608.7	7.01
1699.2	1709.3	7.02
1779.6	1789.7	7.18
1880.2	1890.3	7.39
1960.6	1970.7	7.52
2061.1	2071.2	7.95
2141.6	2151.7	7.88
2242.1	2252.2	8.03
2322.6	2332.7	8.07
2423.1	2433.2	8.09
2503.6	2513.7	8.07
2604.1	2614.2	8.15
2684.5	2694.6	8.21
2785.1	2795.2	8.24
2865.5	2875.6	8.16
2966.1	2976.2	8.35
3046.5	3056.6	8.64
3147.0	3157.1	8.83
3227.5	3237.6	8.90
3328.0	3338.1	9.07
3408.5	3418.6	9.40
3509.0	3519.1	9.60
3589.5	3599.6	9.76
3690.0	3700.1	10.27

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=3010.1MHz (dB) @LO (dBm) +17
1710.0	1300.1	11.25
1670.0	1340.1	11.08
1630.0	1380.1	11.14
1590.0	1420.1	11.11
1550.0	1460.1	11.08
1510.0	1500.1	10.99
1470.0	1540.1	10.88
1430.0	1580.1	10.93
1390.0	1620.1	10.80
1350.0	1660.1	10.85
1310.0	1700.1	10.90
1270.0	1740.1	10.86
1230.0	1780.1	10.85
1190.0	1820.1	10.94
1150.0	1860.1	10.93
1110.0	1900.1	10.93
1070.0	1940.1	11.01
1030.0	1980.1	10.99
990.0	2020.1	10.91
950.0	2060.1	10.84
910.0	2100.1	10.84
870.0	2140.1	10.82
830.0	2180.1	10.79
790.0	2220.1	10.83
750.0	2260.1	10.73
710.0	2300.1	10.81
670.0	2340.1	10.88
610.0	2400.1	10.85
570.0	2440.1	10.83
510.0	2500.1	10.74
470.0	2540.1	10.75
410.0	2600.1	10.61
370.0	2640.1	10.54
310.0	2700.1	10.59
270.0	2740.1	10.55
210.0	2800.1	10.56
170.0	2840.1	10.60
110.0	2900.1	10.76
70.0	2940.1	10.79
10.0	3000.1	11.49

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+14	+17	+20	+14	+17	+20
40.1	48.39	52.17	54.98	31.73	34.63	36.71
120.4	49.34	52.67	53.24	30.78	33.29	34.97
200.6	50.37	51.06	50.74	30.57	32.53	33.44
280.9	48.92	48.45	47.91	29.99	31.36	31.53
361.1	47.60	47.46	46.55	29.75	30.54	30.22
441.4	46.86	46.31	45.56	29.62	29.86	29.31
521.6	47.79	46.98	45.91	29.32	29.13	28.33
601.9	48.80	47.57	47.12	29.20	28.85	28.04
682.1	48.49	47.96	47.93	29.31	28.39	27.70
762.4	49.71	49.40	48.76	28.95	27.86	27.12
842.6	50.98	51.23	49.18	28.78	27.54	26.83
922.9	50.99	52.93	50.14	28.43	27.19	26.50
1003.1	50.72	55.01	51.47	28.30	26.93	26.43
1083.4	49.97	60.30	52.91	28.56	27.14	26.49
1163.6	46.50	61.72	54.55	28.55	27.10	26.34
1243.9	51.96	55.31	47.63	27.40	25.94	25.37
1324.1	50.56	55.18	47.08	26.67	25.44	24.87
1404.4	47.30	59.24	48.47	26.04	25.13	24.54
1484.6	44.55	56.92	54.11	25.78	24.75	24.15
1564.9	42.90	51.48	60.36	25.44	24.43	23.75
1645.1	44.92	71.49	48.03	24.98	24.04	23.33
1725.4	46.38	52.69	44.07	24.93	23.98	23.20
1805.6	45.67	50.11	43.71	25.21	23.98	23.46
1885.9	44.75	44.38	40.88	25.45	24.44	23.88
1966.1	42.02	41.34	38.99	25.85	24.89	24.54
2046.4	39.68	40.18	38.47	26.24	25.69	25.24
2126.6	38.05	39.24	38.98	27.02	26.50	26.51
2206.9	37.25	39.00	40.04	28.22	28.07	28.24
2287.1	37.34	39.82	41.89	29.22	29.79	30.32
2367.4	37.97	40.78	41.79	30.49	31.62	32.66
2447.6	39.42	42.01	40.93	32.20	33.93	35.79
2527.9	40.28	40.80	39.10	33.68	36.58	39.71
2608.2	40.70	39.54	37.55	35.03	39.29	44.54
2688.4	41.24	38.95	36.89	36.73	42.46	46.59
2768.7	42.04	39.43	36.59	39.20	44.88	41.95
2869.0	44.73	39.74	36.62	42.47	41.05	36.43
2949.2	44.56	38.61	35.45	41.70	37.07	33.13
3049.5	40.09	35.36	33.33	38.39	33.67	31.08
3129.8	36.81	33.04	31.52	36.13	32.60	30.33
3230.1	35.56	32.64	31.33	34.89	32.01	30.12

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+14	+17	+20
10.1	40.1	20.86	20.71	20.75
90.4	120.4	21.18	20.71	20.53
170.6	200.6	21.04	20.98	21.07
250.9	280.9	21.49	21.46	21.60
331.1	361.1	22.29	22.34	22.55
411.4	441.4	23.16	23.13	23.32
491.6	521.6	23.95	24.21	24.35
571.9	601.9	25.16	25.53	25.80
652.1	682.1	27.27	27.58	27.55
732.4	762.4	30.00	29.89	29.73
812.6	842.6	32.40	32.30	31.83
892.9	922.9	34.35	33.58	32.88
973.1	1003.1	34.28	33.35	32.49
1053.4	1083.4	33.11	31.62	30.99
1133.6	1163.6	32.78	31.14	30.53
1213.9	1243.9	33.04	30.94	30.26
1294.1	1324.1	32.38	30.39	29.61
1374.4	1404.4	32.23	30.26	29.43
1454.6	1484.6	33.58	31.29	30.56
1534.9	1564.9	34.25	31.81	31.24
1615.1	1645.1	33.67	31.62	31.33
1695.4	1725.4	34.14	32.42	32.27
1775.6	1805.6	36.17	34.63	34.95
1855.9	1885.9	39.28	37.40	37.41
1936.1	1966.1	48.89	44.21	42.33
2016.4	2046.4	48.24	62.96	51.20
2096.6	2126.6	46.36	48.41	48.19
2176.9	2206.9	47.29	48.43	46.92
2257.1	2287.1	47.50	45.87	44.24
2337.4	2367.4	47.71	42.65	40.60
2417.6	2447.6	42.89	39.60	38.68
2497.9	2527.9	37.30	36.21	36.11
2578.2	2608.2	34.95	35.00	35.60
2658.4	2688.4	32.97	33.04	33.88
2738.7	2768.7	32.00	32.35	33.37
2839.0	2869.0	36.25	37.10	38.72
2919.2	2949.2	32.48	32.89	33.61
3019.5	3049.5	31.33	31.47	31.81
3099.8	3129.8	31.80	31.95	32.06
3200.1	3230.1	30.49	30.58	30.59

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+14	+17	+20
10.1	40.1	1.12	1.09	1.04
90.4	120.4	1.07	1.15	1.20
170.6	200.6	1.07	1.16	1.22
250.9	280.9	1.09	1.17	1.24
331.1	361.1	1.10	1.18	1.24
411.4	441.4	1.11	1.18	1.24
491.6	521.6	1.14	1.20	1.24
571.9	601.9	1.18	1.21	1.25
652.1	682.1	1.24	1.26	1.29
732.4	762.4	1.32	1.33	1.35
812.6	842.6	1.39	1.41	1.42
892.9	922.9	1.46	1.47	1.48
973.1	1003.1	1.47	1.48	1.49
1053.4	1083.4	1.49	1.49	1.49
1133.6	1163.6	1.52	1.51	1.50
1213.9	1243.9	1.60	1.57	1.56
1294.1	1324.1	1.69	1.65	1.63
1374.4	1404.4	1.74	1.68	1.64
1454.6	1484.6	1.77	1.70	1.67
1534.9	1564.9	1.75	1.68	1.64
1615.1	1645.1	1.73	1.66	1.62
1695.4	1725.4	1.74	1.66	1.62
1775.6	1805.6	1.79	1.71	1.66
1855.9	1885.9	1.87	1.78	1.72
1936.1	1966.1	1.93	1.84	1.79
2016.4	2046.4	1.96	1.88	1.83
2096.6	2126.6	1.93	1.86	1.81
2176.9	2206.9	1.93	1.86	1.81
2257.1	2287.1	2.00	1.92	1.87
2337.4	2367.4	2.11	2.03	1.96
2417.6	2447.6	2.22	2.14	2.06
2497.9	2527.9	2.31	2.21	2.13
2578.2	2608.2	2.30	2.21	2.15
2658.4	2688.4	2.27	2.19	2.13
2738.7	2768.7	2.27	2.20	2.13
2839.0	2869.0	2.40	2.33	2.26
2919.2	2949.2	2.38	2.30	2.23
3019.5	3049.5	2.33	2.24	2.18
3099.8	3129.8	2.34	2.25	2.19
3200.1	3230.1	2.29	2.19	2.12

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+14	+17	+20
40.1	1.57	2.17	2.80
120.4	1.55	2.12	2.73
200.6	1.52	2.07	2.66
280.9	1.53	2.06	2.64
361.1	1.54	2.07	2.64
441.4	1.56	2.09	2.64
521.6	1.57	2.09	2.63
601.9	1.56	2.08	2.60
682.1	1.54	2.04	2.53
762.4	1.51	1.99	2.46
842.6	1.49	1.94	2.39
922.9	1.46	1.90	2.33
1003.1	1.45	1.87	2.29
1083.4	1.43	1.83	2.23
1163.6	1.41	1.79	2.17
1243.9	1.38	1.75	2.12
1324.1	1.34	1.69	2.04
1404.4	1.31	1.64	1.98
1484.6	1.27	1.59	1.91
1564.9	1.24	1.53	1.84
1645.1	1.19	1.49	1.79
1725.4	1.14	1.45	1.74
1805.6	1.11	1.41	1.71
1885.9	1.09	1.40	1.69
1966.1	1.10	1.40	1.69
2046.4	1.12	1.42	1.71
2126.6	1.15	1.43	1.72
2206.9	1.18	1.44	1.71
2287.1	1.21	1.44	1.69
2367.4	1.24	1.45	1.68
2447.6	1.29	1.49	1.70
2527.9	1.37	1.55	1.76
2608.2	1.46	1.65	1.86
2688.4	1.56	1.75	1.96
2768.7	1.65	1.85	2.06
2869.0	1.79	2.00	2.21
2949.2	1.89	2.10	2.32
3049.5	1.99	2.20	2.41
3129.8	2.02	2.22	2.42
3230.1	2.12	2.37	2.58

IF (OUT) (MHz)	IF VSWR @LO=3200MHz (:1) @LO (dBm)		
	+14	+17	+20
10.0	1.13	1.25	1.34
90.0	1.09	1.23	1.33
170.0	1.10	1.23	1.32
250.0	1.12	1.22	1.30
330.0	1.15	1.22	1.29
410.0	1.17	1.21	1.26
490.0	1.18	1.20	1.23
570.0	1.19	1.18	1.20
650.0	1.19	1.14	1.16
730.0	1.19	1.12	1.11
810.0	1.21	1.10	1.05
890.0	1.23	1.11	1.02
970.0	1.25	1.13	1.07
1050.0	1.27	1.17	1.12
1130.0	1.30	1.21	1.18
1210.0	1.33	1.26	1.24
1290.0	1.37	1.31	1.30
1370.0	1.41	1.36	1.36
1450.0	1.45	1.41	1.40
1530.0	1.50	1.46	1.46
1610.0	1.55	1.51	1.51
1690.0	1.59	1.56	1.56
1770.0	1.60	1.57	1.58
1850.0	1.64	1.61	1.61
1930.0	1.70	1.66	1.65
2010.0	1.75	1.71	1.71
2090.0	1.77	1.74	1.73
2170.0	1.77	1.73	1.72
2250.0	1.79	1.75	1.74
2330.0	1.83	1.79	1.77
2410.0	1.88	1.86	1.84
2490.0	1.90	1.88	1.88
2570.0	1.90	1.89	1.89
2650.0	1.89	1.89	1.89
2730.0	1.89	1.90	1.91
2830.0	1.90	1.95	1.97
2910.0	1.94	1.99	2.03
3010.0	2.02	2.10	2.15
3090.0	2.03	2.11	2.17
3190.0	2.17	2.27	2.34

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+6	10	10	19	28	40	21	27	26	54
1	-	21	+0	24	13	31	24	39	37	42	39	43
2	66	56	53	47	61	51	48	66	58	65	53	56
3	>90	>76	66	70	69	66	69	70	>76	>76	>76	>76
4	>90	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76
5	>90	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76
6	>90	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76
7	>90	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76
8	>90	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76
9	>90	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76
10	>90	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76	>76
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

Test conditions:
RF IN: 1505 MHz; -5.00 dBm.
LO IN: 1535 MHz; +17.00 dBm
IF OUT: 30 MHz; -13.84 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	4	19	21	29	39	50	34	40	41	71
1	-	21	+0	25	14	32	25	40	38	45	41	48
2	46	51	44	39	46	43	39	56	51	58	46	48
3	>90	58	46	54	50	50	50	51	54	63	64	59
4	>90	67	59	60	64	57	56	67	57	79	66	79
5	>90	>86	79	>86	72	73	70	74	72	74	74	>86
6	>90	>86	>86	82	81	74	76	76	75	86	75	84
7	>90	>86	>86	>86	>86	85	85	83	>86	83	>86	>86
8	>90	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86	>86
9	>90	>86	>86	>86	>86	>86	>86	>86	85	>86	>86	>86
10	>90	>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: 1505 MHz; 5.00 dBm.
LO IN: 1535 MHz; +17.00 dBm
IF OUT: 30 MHz; -3.84 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.