Frequency Mixer SRA-215

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+7	+10	+13
0.1	30.1	5.77	5.33	5.05
10.0	40.0	5.47	5.08	4.87
70.9	100.9	5.78	5.35	5.11
131.7	161.7	6.01	5.48	5.19
192.5	222.5	6.11	5.53	5.24
253.3	283.3	6.08	5.57	5.32
314.1	344.1	6.18	5.68	5.46
374.9	404.9	6.35	5.85	5.62
435.7	465.7	6.51	5.96	5.73
496.5	526.5	6.75	6.11	5.86
557.3	587.3	7.10	6.34	6.03
618.1	648.1	7.35	6.53	6.19
678.9	708.9	7.36	6.62	6.28
739.7	769.7	7.33	6.63	6.34
800.5	830.5	7.30	6.65	6.37
861.3	891.3	7.31	6.69	6.41
922.0	952.0	7.34	6.73	6.43
982.8	1012.8	7.41	6.81	6.52
1043.6	1073.6	7.59	7.03	6.75
1104.4	1134.4	7.69	7.15	6.86
1165.2	1195.2	7.52	7.01	6.72
1226.0	1256.0	7.51	7.04	6.79
1286.8	1316.8	7.66	7.20	6.95
1347.6	1377.6	7.81	7.33	7.08
1408.4	1438.4	7.93	7.45	7.19
1469.2	1499.2	8.09	7.60	7.34
1530.0	1560.0	8.25	7.78	7.52
1590.8	1620.8	8.41	7.91	7.66
1651.6	1681.6	8.56	8.02	7.77
1773.2	1803.2	8.95	8.34	8.02
1834.0	1864.0	9.26	8.55	8.20
1894.8	1924.8	9.59	8.80	8.42
1935.3	1965.3	9.78	8.98	8.57
1996.1	2026.1	10.04	9.20	8.74
2036.6	2066.6	10.19	9.33	8.85
2097.4	2127.4	10.37	9.54	9.04
2138.0	2168.0	10.56	9.72	9.21
2198.8	2228.8	10.87	9.99	9.45
2239.3	2269.3	11.07	10.21	9.65
2300.1	2330.1	11.30	10.42	9.85

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+7	+10	+13
10.1	40.1	26.56	28.94	26.18
70.9	100.9	21.02	23.14	26.38
131.7	161.7	21.65	24.31	22.99
192.5	222.5	23.61	22.19	24.81
253.3	283.3	19.28	20.63	25.73
314.1	344.1	19.34	29.31	28.48
374.9	404.9	22.15	24.54	29.88
435.7	465.7	21.79	21.84	26.33
496.5	526.5	22.09	24.72	25.94
557.3	587.3	22.19	24.84	26.00
618.1	648.1	22.98	23.47	27.19
678.9	708.9	20.11	22.90	22.82
739.7	769.7	18.74	20.61	26.06
800.5	830.5	18.20	21.02	26.54
861.3	891.3	18.66	20.73	26.15
922.0	952.0	17.80	25.26	24.06
982.8	1012.8	17.34	22.64	22.39
1043.6	1073.6	17.31	20.98	19.55
1104.4	1134.4	16.03	20.12	20.60
1165.2	1195.2	15.61	19.88	22.78
1226.0	1256.0	16.50	20.37	23.71
1286.8	1316.8	17.21	21.71	22.85
1347.6	1377.6	16.83	21.92	21.39
1408.4	1438.4	17.80	21.82	22.39
1469.2	1499.2	18.29	22.37	21.30
1530.0	1560.0	16.03	20.04	24.62
1590.8	1620.8	15.06	19.44	24.43
1651.6	1681.6	15.05	20.68	22.02
1712.4	1742.4	15.29	21.05	21.99
1773.2	1803.2	14.93	20.90	23.13
1834.0	1864.0	15.15	20.49	21.14
1894.8	1924.8	16.34	19.92	19.88
1935.3	1965.3	15.76	19.16	19.98
1996.1	2026.1	15.73	18.51	20.19
2036.6	2066.6	15.22	18.40	20.36
2097.4	2127.4	15.78	19.15	22.42
2138.0	2168.0	15.77	18.56	22.60
2198.8	2228.8	17.02	20.03	22.49
2239.3	2269.3	18.26	21.30	22.60
2300.1	2330.1	18.47	21.25	21.18

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+5dBm (dB) @LO (dBm)		
		+7	+10	+13
10.1	40.1	0.67	0.36	0.23
70.9	100.9	0.48	0.23	0.14
131.7	161.7	0.49	0.25	0.15
192.5	222.5	0.49	0.26	0.14
253.3	283.3	0.55	0.24	0.12
314.1	344.1	0.47	0.20	0.09
374.9	404.9	0.42	0.17	0.09
435.7	465.7	0.40	0.15	0.09
496.5	526.5	0.34	0.15	0.09
557.3	587.3	0.23	0.15	0.08
618.1	648.1	0.26	0.14	0.08
678.9	708.9	0.39	0.17	0.09
739.7	769.7	0.48	0.19	0.09
800.5	830.5	0.53	0.20	0.09
861.3	891.3	0.53	0.22	0.10
922.0	952.0	0.57	0.25	0.12
982.8	1012.8	0.58	0.26	0.12
1043.6	1073.6	0.61	0.26	0.12
1104.4	1134.4	0.62	0.28	0.12
1165.2	1195.2	0.80	0.36	0.17
1226.0	1256.0	0.84	0.37	0.16
1286.8	1316.8	0.86	0.34	0.15
1347.6	1377.6	0.90	0.36	0.17
1408.4	1438.4	0.86	0.36	0.19
1469.2	1499.2	0.88	0.37	0.21
1530.0	1560.0	0.88	0.37	0.20
1590.8	1620.8	0.84	0.33	0.20
1651.6	1681.6	0.81	0.30	0.18
1712.4	1742.4	0.74	0.29	0.17
1773.2	1803.2	0.75	0.32	0.20
1834.0	1864.0	0.71	0.35	0.22
1894.8	1924.8	0.62	0.35	0.27
1935.3	1965.3	0.57	0.37	0.31
1996.1	2026.1	0.52	0.34	0.32
2036.6	2066.6	0.51	0.32	0.28
2097.4	2127.4	0.46	0.28	0.20
2138.0	2168.0	0.48	0.27	0.18
2198.8	2228.8	0.48	0.25	0.15
2239.3	2269.3	0.48	0.25	0.16
2300.1	2330.1	0.58	0.30	0.18

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=750.1MHz (dB) @LO (dBm) +10
500.0	250.1	7.11
487.4	262.7	7.05
474.9	275.2	7.01
462.3	287.8	6.95
449.7	300.4	6.96
437.2	312.9	6.97
424.6	325.5	6.95
412.1	338.0	6.92
399.5	350.6	6.89
386.9	363.2	6.88
374.4	375.7	6.84
361.8	388.3	6.87
349.2	400.9	6.85
336.7	413.4	6.84
324.1	426.0	6.82
311.5	438.6	6.81
299.0	451.1	6.79
286.4	463.7	6.78
273.8	476.3	6.80
261.3	488.8	6.81
248.7	501.4	6.79
236.2	513.9	6.79
223.6	526.5	6.80
211.0	539.1	6.80
198.5	551.6	6.82
185.9	564.2	6.82
173.3	576.8	6.82
160.8	589.3	6.82
148.2	601.9	6.80
135.6	614.5	6.78
123.1	627.0	6.75
110.5	639.6	6.73
97.9	652.2	6.74
85.4	664.7	6.72
72.8	677.3	6.70
60.3	689.8	6.68
47.7	702.4	6.65
35.1	715.0	6.64
22.6	727.5	6.64
10.0	740.1	6.71

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB) @LO (dBm) +10
10.0	20.1	5.13
22.6	32.7	5.14
35.1	45.2	5.16
47.7	57.8	5.15
60.3	70.4	5.14
72.8	82.9	5.13
85.4	95.5	5.13
97.9	108.0	5.11
110.5	120.6	5.11
123.1	133.2	5.12
135.6	145.7	5.09
148.2	158.3	5.07
160.8	170.9	5.06
173.3	183.4	5.04
185.9	196.0	5.03
198.5	208.6	5.01
211.0	221.1	5.01
223.6	233.7	4.96
236.2	246.3	4.96
248.7	258.8	4.94
261.3	271.4	4.92
273.8	283.9	4.93
286.4	296.5	4.90
299.0	309.1	4.91
311.5	321.6	4.91
324.1	334.2	4.89
336.7	346.8	4.91
349.2	359.3	4.90
361.8	371.9	4.91
374.4	384.5	4.91
386.9	397.0	4.91
399.5	409.6	4.91
412.1	422.2	4.93
424.6	434.7	4.93
437.2	447.3	4.95
449.7	459.8	4.94
462.3	472.4	4.95
474.9	485.0	4.97
487.4	497.5	4.98
500.0	510.1	4.99

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1500.1MHz (dB) @LO (dBm) +10
500.0	1000.1	7.34
487.4	1012.7	7.34
474.9	1025.2	7.33
462.3	1037.8	7.34
449.7	1050.4	7.34
437.2	1062.9	7.38
424.6	1075.5	7.37
412.1	1088.0	7.35
399.5	1100.6	7.32
386.9	1113.2	7.29
374.4	1125.7	7.29
361.8	1138.3	7.28
349.2	1150.9	7.25
336.7	1163.4	7.26
324.1	1176.0	7.26
311.5	1188.6	7.28
299.0	1201.1	7.31
286.4	1213.7	7.31
273.8	1226.3	7.35
261.3	1238.8	7.38
248.7	1251.4	7.41
236.2	1263.9	7.44
223.6	1276.5	7.45
211.0	1289.1	7.48
198.5	1301.6	7.50
185.9	1314.2	7.51
173.3	1326.8	7.54
160.8	1339.3	7.57
148.2	1351.9	7.60
135.6	1364.5	7.62
123.1	1377.0	7.61
110.5	1389.6	7.63
97.9	1402.2	7.65
85.4	1414.7	7.68
72.8	1427.3	7.68
60.3	1439.8	7.67
47.7	1452.4	7.68
35.1	1465.0	7.69
22.6	1477.5	7.70
10.0	1490.1	7.73

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+7	+10	+13	+7	+10	+13
0.1	22.98	24.71	26.17	21.28	23.12	24.73
10.0	45.65	48.23	50.78	43.04	46.45	49.49
70.9	46.95	47.68	48.17	41.78	44.20	46.27
131.7	42.87	43.53	44.14	42.04	44.46	46.22
192.5	40.23	40.97	41.68	43.03	45.60	47.44
253.3	38.61	39.35	39.98	45.44	48.63	50.84
314.1	37.88	38.58	39.15	48.50	54.52	58.39
374.9	37.25	37.91	38.31	50.53	60.49	52.77
435.7	37.18	37.52	37.69	50.03	51.95	46.42
496.5	37.04	37.52	37.81	51.30	49.74	44.35
557.3	36.77	36.95	37.19	50.88	46.34	42.17
618.1	36.84	37.31	37.68	44.06	42.25	39.87
678.9	36.21	37.12	37.78	39.19	38.39	37.00
739.7	36.27	37.53	38.22	35.71	34.80	33.72
800.5	36.64	38.11	38.98	33.31	32.17	31.18
861.3	36.11	37.72	38.70	31.47	30.34	29.59
922.0	36.07	37.87	39.20	29.90	28.89	28.32
982.8	36.88	38.68	39.98	28.42	27.66	27.22
1043.6	38.64	39.27	39.15	27.15	26.52	26.36
1104.4	35.45	35.56	35.19	25.52	24.79	24.63
1165.2	34.84	35.74	35.71	24.48	23.83	23.65
1226.0	35.47	37.30	37.86	23.45	22.71	22.43
1286.8	35.08	37.80	39.46	23.08	22.07	21.64
1347.6	34.31	37.50	40.19	23.00	21.57	20.98
1408.4	34.99	39.21	43.21	22.82	21.21	20.39
1469.2	36.27	42.40	50.59	22.75	20.98	19.87
1530.0	37.10	44.04	55.12	22.67	20.80	19.69
1590.8	36.66	43.46	55.79	22.80	20.75	19.62
1651.6	36.22	43.02	56.86	22.74	20.83	19.69
1773.2	34.89	40.07	43.17	22.16	20.89	19.78
1834.0	33.89	37.44	38.83	22.21	21.35	20.30
1894.8	32.13	33.99	34.99	22.14	21.82	20.98
1935.3	30.83	31.96	32.81	21.97	22.06	21.43
1996.1	29.21	29.90	30.59	21.47	22.21	22.29
2036.6	28.40	29.00	29.62	21.24	22.22	22.69
2097.4	27.26	27.95	28.53	20.78	22.11	23.08
2138.0	26.63	27.28	27.79	20.76	22.29	23.55
2198.8	26.08	26.57	26.97	20.38	22.07	23.69
2239.3	26.12	26.33	26.51	20.13	21.83	23.59
2300.1	26.14	26.37	26.45	19.70	21.52	23.44

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+7	+10	+13
10.1	40.1	34.13	34.23	33.59
70.9	100.9	33.76	33.57	33.83
131.7	161.7	34.90	34.81	34.64
192.5	222.5	36.88	36.58	36.36
253.3	283.3	39.77	39.62	38.92
314.1	344.1	42.68	41.12	40.45
374.9	404.9	44.03	42.95	42.06
435.7	465.7	42.81	42.37	41.97
496.5	526.5	38.25	38.99	39.90
557.3	587.3	35.11	35.65	36.41
618.1	648.1	34.39	34.25	33.99
678.9	708.9	32.51	32.53	32.18
739.7	769.7	32.23	32.23	32.26
800.5	830.5	33.66	33.96	34.28
861.3	891.3	34.52	35.71	36.78
922.0	952.0	34.74	36.00	37.51
982.8	1012.8	33.64	34.57	35.04
1043.6	1073.6	31.49	31.89	31.95
1104.4	1134.4	30.93	31.01	31.23
1165.2	1195.2	30.29	30.14	30.11
1226.0	1256.0	29.65	29.23	28.91
1286.8	1316.8	30.34	29.71	29.20
1347.6	1377.6	32.43	31.32	30.71
1408.4	1438.4	35.19	33.58	32.65
1469.2	1499.2	38.55	35.91	34.45
1530.0	1560.0	39.27	35.97	34.39
1590.8	1620.8	37.01	34.61	33.49
1651.6	1681.6	36.70	35.17	34.20
1712.4	1742.4	36.35	35.99	35.22
1773.2	1803.2	36.26	36.89	35.64
1834.0	1864.0	34.70	36.09	34.78
1894.8	1924.8	32.65	35.12	34.30
1935.3	1965.3	31.63	34.57	34.95
1996.1	2026.1	30.89	33.47	36.34
2036.6	2066.6	31.25	33.05	36.03
2097.4	2127.4	32.68	33.78	35.67
2138.0	2168.0	33.66	34.66	35.57
2198.8	2228.8	34.33	35.40	35.60
2239.3	2269.3	33.11	33.98	34.49
2300.1	2330.1	29.81	30.60	31.12

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+7	+10	+13
5.0	35.0	1.68	1.43	1.28
10.0	40.1	1.69	1.43	1.29
70.9	100.9	1.67	1.47	1.34
131.7	161.7	1.81	1.58	1.43
192.5	222.5	1.93	1.68	1.54
253.3	283.3	1.99	1.76	1.65
314.1	344.1	2.13	1.92	1.80
374.9	404.9	2.36	2.10	1.96
435.7	465.7	2.54	2.22	2.07
496.5	526.5	2.74	2.38	2.19
557.3	587.3	2.94	2.53	2.30
618.1	648.1	3.00	2.58	2.34
678.9	708.9	2.94	2.51	2.26
739.7	769.7	2.83	2.42	2.20
800.5	830.5	2.75	2.37	2.15
861.3	891.3	2.71	2.35	2.15
922.0	952.0	2.58	2.28	2.09
982.8	1012.8	2.36	2.12	1.98
1043.6	1073.6	2.11	1.94	1.83
1104.4	1134.4	1.90	1.77	1.71
1165.2	1195.2	1.64	1.56	1.54
1226.0	1256.0	1.44	1.44	1.49
1286.8	1316.8	1.31	1.39	1.48
1347.6	1377.6	1.21	1.36	1.47
1408.4	1438.4	1.21	1.36	1.49
1469.2	1499.2	1.30	1.41	1.52
1530.0	1560.0	1.43	1.50	1.59
1590.8	1620.8	1.57	1.59	1.64
1651.6	1681.6	1.71	1.67	1.67
1712.4	1742.4	1.82	1.73	1.70
1773.2	1803.2	1.93	1.81	1.75
1834.0	1864.0	2.05	1.90	1.82
1894.8	1924.8	2.15	1.98	1.89
1935.3	1965.3	2.22	2.02	1.92
1996.1	2026.1	2.29	2.08	1.97
2036.6	2066.6	2.30	2.11	2.00
2097.4	2127.4	2.25	2.11	2.02
2138.0	2168.0	2.21	2.09	2.01
2198.8	2228.8	2.14	2.05	1.98
2239.3	2269.3	2.11	2.03	1.97
2300.1	2330.1	2.08	1.99	1.94

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+7	+10	+13
5.0	1.09	1.50	2.29
10.0	1.11	1.45	2.13
70.9	1.17	1.38	1.96
131.7	1.24	1.34	1.90
192.5	1.30	1.25	1.77
253.3	1.40	1.16	1.64
314.1	1.59	1.11	1.53
374.9	1.82	1.14	1.37
435.7	2.01	1.21	1.23
496.5	2.20	1.31	1.16
557.3	2.34	1.42	1.24
618.1	2.39	1.55	1.43
678.9	2.51	1.76	1.69
739.7	2.58	1.93	1.95
800.5	2.45	2.02	2.18
861.3	2.31	2.10	2.39
922.0	2.15	2.17	2.58
982.8	2.00	2.20	2.70
1043.6	1.86	2.18	2.73
1104.4	1.77	2.19	2.78
1165.2	1.71	2.20	2.79
1226.0	1.65	2.15	2.73
1286.8	1.60	2.08	2.62
1347.6	1.58	2.04	2.53
1408.4	1.58	1.98	2.42
1469.2	1.58	1.89	2.26
1530.0	1.57	1.78	2.07
1590.8	1.56	1.64	1.86
1651.6	1.56	1.50	1.61
1712.4	1.55	1.36	1.40
1773.2	1.53	1.22	1.19
1834.0	1.48	1.14	1.08
1894.8	1.44	1.21	1.25
1935.3	1.42	1.29	1.40
1996.1	1.42	1.45	1.63
2036.6	1.42	1.54	1.78
2097.4	1.48	1.71	2.02
2138.0	1.53	1.82	2.17
2198.8	1.65	2.01	2.39
2239.3	1.74	2.12	2.50
2300.1	1.92	2.31	2.71

IF (OUT) (MHz)	IF VSWR @LO=1500.1MHz (:1) @LO (dBm)		
	+7	+10	+13
5.0	1.69	1.22	1.03
10.0	1.69	1.22	1.03
22.6	2.19	1.88	1.64
35.1	2.01	1.75	1.54
47.7	1.95	1.67	1.48
60.3	1.93	1.65	1.46
72.8	1.91	1.66	1.46
85.4	1.95	1.68	1.48
97.9	1.96	1.70	1.51
110.5	1.98	1.72	1.53
123.1	1.96	1.70	1.51
135.6	1.94	1.68	1.49
148.2	1.92	1.66	1.48
160.8	1.90	1.64	1.47
173.3	1.89	1.64	1.48
185.9	1.89	1.65	1.49
198.5	1.90	1.65	1.49
211.0	1.88	1.64	1.49
223.6	1.87	1.63	1.48
236.2	1.83	1.61	1.46
248.7	1.80	1.58	1.44
261.3	1.78	1.57	1.43
273.8	1.76	1.56	1.44
286.4	1.75	1.56	1.44
299.0	1.74	1.55	1.44
311.5	1.73	1.55	1.44
324.1	1.71	1.53	1.43
336.7	1.69	1.51	1.43
349.2	1.67	1.50	1.42
361.8	1.64	1.48	1.41
374.4	1.61	1.46	1.40
386.9	1.59	1.45	1.39
399.5	1.58	1.44	1.39
412.1	1.59	1.45	1.41
424.6	1.59	1.46	1.41
437.2	1.57	1.45	1.42
449.7	1.56	1.45	1.42
462.3	1.54	1.43	1.41
474.9	1.53	1.42	1.41
487.4	1.51	1.41	1.41
500.0	1.49	1.41	1.42

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	18	30	21	26	26	24	36	35	46	49
1	-	29	+0	33	16	30	27	36	37	39	53	50
2	86	46	41	60	45	41	61	52	62	42	51	51
3	>100	54	50	52	47	52	48	52	60	52	56	57
4	>100	73	76	61	74	61	70	64	71	65	67	68
5	>100	86	76	77	69	72	67	67	71	68	68	65
6	>100	91	>93	88	88	79	85	78	86	78	83	>93
7	>100	>93	>93	>93	>93	>93	>93	92	84	88	84	89
8	>100	>93	>93	>93	>93	>93	>93	>93	>93	89	>93	92
9	>100	>93	>93	>93	>93	>93	>93	>93	>93	>93	91	92
10	>100	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93	>93
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 750.1 MHz; 0.00 dBm.**
LO IN: 780.01 MHz; +10.00 dBm
IF OUT: 29.91 MHz; -6.59 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	8	17	10	14	15	12	23	22	30	37
1	-	27	+0	31	15	29	26	35	34	37	41	45
2	>100	57	52	60	54	50	68	57	64	51	60	61
3	>100	73	68	68	66	68	66	69	72	67	73	76
4	>100	>83	>83	>83	>83	83	>83	>83	>83	>83	>83	>83
5	>100	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
6	>100	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
7	>100	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
8	>100	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
9	>100	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
10	>100	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 750.1 MHz; -10.00 dBm.**
LO IN: 780.01 MHz; +10.00 dBm
IF OUT: 29.91 MHz; -16.65 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.