Frequency Mixer MACY-ED12790/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		0	+3	+6
840.1	810.1	10.75	11.93	12.49
870.1	840.1	9.13	10.45	11.14
910.1	880.1	8.10	8.85	9.89
940.1	910.1	7.69	8.24	8.79
980.1	950.1	7.69	8.08	8.46
1010.1	980.1	8.16	8.79	9.27
1050.1	1020.1	9.53	9.83	10.07
1080.1	1050.1	8.67	9.17	9.64
1120.1	1090.1	7.82	8.23	8.63
1150.1	1120.1	8.00	8.47	8.93
1190.1	1160.1	8.28	9.02	10.27
1220.1	1190.1	7.99	8.40	9.05
1260.1	1230.1	7.62	7.93	8.23
1290.1	1260.1	7.36	7.57	8.14
1330.1	1300.1	7.33	7.47	7.60
1360.1	1330.1	7.25	7.38	7.48
1400.1	1370.1	7.12	7.15	7.17
1430.1	1400.1	7.07	7.04	7.02
1470.1	1440.1	7.35	7.31	7.27
1500.1	1470.1	7.55	7.53	7.52
1540.1	1510.1	7.51	7.55	7.59
1570.1	1540.1	7.65	7.71	7.74
1610.1	1580.1	7.78	7.85	7.88
1640.1	1610.1	7.90	8.01	8.13
1680.1	1650.1	8.50	8.55	8.67
1710.1	1680.1	8.52	8.56	8.65
1750.1	1720.1	8.72	8.79	8.93
1780.1	1750.1	8.72	8.76	8.89
1820.1	1790.1	8.65	8.70	8.83
1850.1	1820.1	8.68	8.67	8.77
1890.1	1860.1	8.75	8.46	8.33
1920.1	1890.1	8.72	8.53	8.47
1960.1	1930.1	9.12	8.92	8.86
1990.1	1960.1	9.22	9.02	8.96
2030.1	2000.1	9.29	9.12	9.09
2060.1	2030.1	9.25	9.09	9.09
2100.1	2070.1	9.21	9.06	9.06
2130.1	2100.1	9.53	9.37	9.36
2170.1	2140.1	9.72	9.59	9.58
2200.1	2170.1	10.20	10.11	10.12

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		0	+3	+6
840.1	810.1	27.23	27.46	26.17
870.1	840.1	22.23	27.30	26.01
910.1	880.1	20.02	21.12	21.42
940.1	910.1	18.72	19.35	19.51
980.1	950.1	18.51	18.75	18.49
1010.1	980.1	18.27	19.80	20.59
1050.1	1020.1	23.45	23.56	24.22
1080.1	1050.1	23.87	23.31	21.05
1120.1	1090.1	20.70	19.78	19.62
1150.1	1120.1	21.45	20.31	19.10
1190.1	1160.1	23.23	20.53	21.01
1220.1	1190.1	25.41	22.89	19.63
1260.1	1230.1	27.06	26.50	23.90
1290.1	1260.1	27.77	24.35	24.55
1330.1	1300.1	29.94	30.21	28.64
1360.1	1330.1	29.73	30.56	31.59
1400.1	1370.1	28.40	28.78	29.28
1430.1	1400.1	28.82	29.22	30.19
1470.1	1440.1	30.57	31.27	31.76
1500.1	1470.1	33.59	35.13	34.14
1540.1	1510.1	32.23	32.21	31.80
1570.1	1540.1	30.63	29.54	29.37
1610.1	1580.1	30.63	30.21	29.90
1640.1	1610.1	27.95	28.56	29.27
1680.1	1650.1	30.02	30.90	31.69
1710.1	1680.1	29.96	31.58	32.41
1750.1	1720.1	29.08	30.39	30.78
1780.1	1750.1	28.43	29.08	29.09
1820.1	1790.1	28.05	29.17	28.78
1850.1	1820.1	26.67	28.02	28.15
1890.1	1860.1	24.63	25.80	25.52
1920.1	1890.1	25.74	26.98	26.73
1960.1	1930.1	25.53	26.50	26.08
1990.1	1960.1	23.92	24.94	24.81
2030.1	2000.1	25.03	25.73	25.61
2060.1	2030.1	25.03	26.13	26.61
2100.1	2070.1	24.85	26.69	26.77
2130.1	2100.1	24.79	26.89	27.38
2170.1	2140.1	24.15	26.03	27.04
2200.1	2170.1	24.22	25.81	26.84

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+15dBm (dB) @LO (dBm)		
		0	+3	+6
840.1	810.1	0.40	0.39	0.50
870.1	840.1	0.81	0.50	0.44
910.1	880.1	0.93	1.05	0.97
940.1	910.1	0.98	1.00	1.14
980.1	950.1	0.97	1.00	1.10
1010.1	980.1	1.29	0.95	0.80
1050.1	1020.1	0.49	0.26	0.16
1080.1	1050.1	0.71	0.38	0.10
1120.1	1090.1	1.16	1.17	1.08
1150.1	1120.1	1.16	1.33	1.37
1190.1	1160.1	0.98	1.16	0.86
1220.1	1190.1	0.80	1.19	1.41
1260.1	1230.1	0.56	0.67	0.85
1290.1	1260.1	0.53	0.78	0.80
1330.1	1300.1	0.27	0.31	0.45
1360.1	1330.1	0.23	0.20	0.22
1400.1	1370.1	0.26	0.24	0.23
1430.1	1400.1	0.23	0.21	0.19
1470.1	1440.1	0.16	0.13	0.13
1500.1	1470.1	0.11	0.08	0.08
1540.1	1510.1	0.13	0.11	0.11
1570.1	1540.1	0.18	0.18	0.17
1610.1	1580.1	0.22	0.21	0.20
1640.1	1610.1	0.34	0.30	0.27
1680.1	1650.1	0.24	0.20	0.19
1710.1	1680.1	0.22	0.18	0.18
1750.1	1720.1	0.25	0.19	0.19
1780.1	1750.1	0.31	0.26	0.27
1820.1	1790.1	0.39	0.32	0.33
1850.1	1820.1	0.46	0.40	0.41
1890.1	1860.1	0.55	0.52	0.55
1920.1	1890.1	0.41	0.37	0.37
1960.1	1930.1	0.43	0.42	0.44
1990.1	1960.1	0.61	0.58	0.62
2030.1	2000.1	0.67	0.60	0.64
2060.1	2030.1	0.64	0.56	0.60
2100.1	2070.1	0.51	0.44	0.44
2130.1	2100.1	0.46	0.39	0.37
2170.1	2140.1	0.42	0.33	0.32
2200.1	2170.1	0.36	0.29	0.28

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1420MHz (dB) @LO (dBm) +3
550.0	870.0	10.09
516.9	903.1	9.20
483.9	936.1	8.88
450.8	969.2	9.28
428.8	991.2	9.66
395.7	1024.3	9.84
373.7	1046.3	9.57
340.6	1079.4	9.09
318.6	1101.4	8.68
285.5	1134.5	10.14
263.5	1156.5	9.68
230.4	1189.6	8.68
208.4	1211.6	8.21
175.3	1244.7	8.02
153.3	1266.7	7.72
120.2	1299.8	7.65
98.2	1321.8	7.63
65.1	1354.9	7.31
43.1	1376.9	7.09
10.0	1410.0	7.38
39.4	1459.4	6.97
127.6	1547.6	7.32
186.3	1606.3	7.67
274.5	1694.5	8.48
333.3	1753.3	8.36
421.4	1841.4	7.79
480.2	1900.2	8.29
568.4	1988.4	9.32
627.1	2047.1	8.78
715.3	2135.3	8.57
774.1	2194.1	8.68
862.2	2282.2	8.74
921.0	2341.0	8.85
1009.2	2429.2	8.84
1068.0	2488.0	8.91
1156.1	2576.1	8.80
1214.9	2634.9	8.78
1303.1	2723.1	9.28
1361.8	2781.8	9.59
1450.0	2870.0	10.65

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1129.9MHz (dB) @LO (dBm) +3
10.1	1140.0	9.96
50.1	1180.0	8.79
90.1	1220.0	7.78
130.1	1260.0	7.18
170.1	1300.0	6.88
210.1	1340.0	6.77
250.1	1380.0	6.85
290.1	1420.0	6.83
330.1	1460.0	6.97
370.1	1500.0	7.14
410.1	1540.0	7.17
450.1	1580.0	7.18
490.1	1620.0	7.38
530.1	1660.0	7.50
570.1	1700.0	7.34
610.1	1740.0	7.65
650.1	1780.0	8.00
690.1	1820.0	8.48
730.1	1860.0	8.30
770.1	1900.0	7.74
810.1	1940.0	7.87
850.1	1980.0	8.33
890.1	2020.0	8.53
930.1	2060.0	8.51
970.1	2100.0	8.47
1010.1	2140.0	8.36
1050.1	2180.0	8.43
1110.1	2240.0	8.47
1150.1	2280.0	8.36
1210.1	2340.0	8.34
1250.1	2380.0	8.29
1310.1	2440.0	8.96
1350.1	2480.0	9.00
1410.1	2540.0	8.98
1450.1	2580.0	8.95
1510.1	2640.0	8.94
1550.1	2680.0	9.18
1610.1	2740.0	9.53
1650.1	2780.0	9.78
1710.1	2840.0	10.63

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1710.1MHz (dB) @LO (dBm) +3
530.1	1180.0	10.64
520.1	1190.0	10.38
510.1	1200.0	10.24
500.1	1210.0	10.06
490.1	1220.0	9.90
480.1	1230.0	9.83
470.1	1240.0	9.75
460.1	1250.0	9.59
450.1	1260.0	9.39
440.1	1270.0	9.25
430.1	1280.0	9.23
420.1	1290.0	9.15
410.1	1300.0	9.13
400.1	1310.0	9.09
380.1	1330.0	8.99
370.1	1340.0	8.96
350.1	1360.0	8.88
340.1	1370.0	8.84
320.1	1390.0	8.76
310.1	1400.0	8.68
290.1	1420.0	8.62
280.1	1430.0	8.55
260.1	1450.0	8.46
250.1	1460.0	8.44
230.1	1480.0	8.31
220.1	1490.0	8.32
200.1	1510.0	8.21
190.1	1520.0	8.19
170.1	1540.0	8.06
160.1	1550.0	8.04
140.1	1570.0	7.95
130.1	1580.0	7.94
110.1	1600.0	7.96
100.1	1610.0	7.98
80.1	1630.0	8.33
70.1	1640.0	8.34
50.1	1660.0	8.51
40.1	1670.0	8.55
20.1	1690.0	8.63
10.1	1700.0	8.99

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	0	+3	+6	0	+3	+6
810.1	24.21	21.84	21.18	16.43	21.94	29.92
840.1	26.90	26.12	26.93	17.10	22.35	28.20
880.1	27.21	28.54	30.07	15.55	20.10	25.25
910.1	25.86	28.44	31.09	13.13	16.41	20.47
950.1	24.87	26.16	28.91	10.15	12.87	16.27
980.1	23.79	25.16	28.16	10.32	13.34	16.88
1020.1	20.91	23.90	27.24	14.09	16.91	19.78
1050.1	21.88	24.94	28.18	12.95	16.10	19.21
1090.1	30.26	41.12	36.11	12.43	16.67	20.75
1120.1	20.90	21.77	23.08	9.40	13.13	17.03
1160.1	16.28	18.82	21.17	11.41	14.69	18.02
1190.1	11.33	13.25	15.91	9.02	11.90	15.11
1230.1	10.39	11.93	14.60	5.28	7.70	10.61
1260.1	12.77	13.82	16.29	6.43	8.73	11.42
1300.1	13.22	14.06	15.99	6.52	8.76	11.46
1330.1	14.18	14.98	16.93	5.43	7.52	10.10
1370.1	15.58	16.31	18.46	4.91	7.10	9.82
1400.1	15.43	16.46	18.90	5.67	7.91	10.70
1440.1	16.23	17.76	20.78	6.16	8.62	11.50
1470.1	16.97	19.58	23.02	6.12	8.90	11.89
1510.1	18.17	21.72	25.33	5.92	8.81	11.96
1540.1	17.24	20.51	23.79	6.41	9.27	12.36
1580.1	15.54	18.05	20.99	8.75	11.56	14.59
1610.1	14.59	16.97	20.00	11.09	13.60	16.43
1650.1	17.55	21.08	26.05	10.46	12.64	15.30
1680.1	23.59	27.04	32.25	10.04	12.58	15.62
1720.1	25.33	27.88	31.04	10.65	13.36	16.76
1750.1	25.80	28.68	31.88	11.67	14.53	18.17
1790.1	25.25	29.20	33.81	11.83	14.60	18.38
1820.1	23.35	26.92	31.38	11.91	14.31	17.42
1860.1	22.00	25.29	29.73	11.05	12.29	14.62
1890.1	22.58	25.78	29.66	12.32	14.14	17.01
1930.1	18.90	21.80	25.14	12.85	15.06	18.21
1960.1	17.18	19.58	22.56	11.88	13.79	16.65
2000.1	17.72	20.21	23.85	11.75	13.39	15.91
2030.1	19.49	21.72	24.73	12.68	14.15	16.31
2070.1	22.90	24.27	25.93	14.99	16.21	17.87
2100.1	24.78	25.72	26.71	18.12	19.34	20.56
2140.1	23.69	24.17	24.85	21.86	23.96	24.95
2170.1	21.74	22.32	23.28	22.65	25.61	26.96

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		0	+3	+6
840.1	810.1	31.22	29.06	25.75
870.1	840.1	23.94	25.81	23.28
910.1	880.1	21.11	22.70	23.12
940.1	910.1	19.23	19.79	20.72
980.1	950.1	18.71	18.63	18.86
1010.1	980.1	20.98	21.32	21.88
1050.1	1020.1	25.77	25.71	25.36
1080.1	1050.1	23.23	23.87	23.92
1120.1	1090.1	18.59	19.15	20.22
1150.1	1120.1	19.17	20.28	23.55
1190.1	1160.1	17.49	16.70	18.63
1220.1	1190.1	18.24	16.18	16.10
1260.1	1230.1	21.18	18.08	16.95
1290.1	1260.1	26.25	23.20	22.70
1330.1	1300.1	27.68	24.48	22.63
1360.1	1330.1	26.96	24.78	23.66
1400.1	1370.1	29.72	27.20	26.37
1430.1	1400.1	34.17	31.46	29.90
1470.1	1440.1	43.54	40.33	37.18
1500.1	1470.1	39.96	38.39	34.76
1540.1	1510.1	33.20	31.81	30.60
1570.1	1540.1	31.62	31.01	31.03
1610.1	1580.1	30.59	31.23	31.82
1640.1	1610.1	29.94	31.35	32.44
1680.1	1650.1	29.84	30.99	31.53
1710.1	1680.1	30.24	31.69	32.78
1750.1	1720.1	30.06	31.69	33.39
1780.1	1750.1	28.69	29.66	30.77
1820.1	1790.1	26.30	26.93	27.59
1850.1	1820.1	24.61	25.02	25.34
1890.1	1860.1	21.64	21.43	20.98
1920.1	1890.1	21.18	20.93	20.44
1960.1	1930.1	20.73	20.77	20.41
1990.1	1960.1	18.36	18.29	18.06
2030.1	2000.1	18.23	18.11	17.86
2060.1	2030.1	18.97	18.83	18.42
2100.1	2070.1	19.14	18.87	18.41
2130.1	2100.1	18.92	18.62	18.24
2170.1	2140.1	18.00	17.72	17.33
2200.1	2170.1	17.23	17.05	16.71

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		0	+3	+6
840.1	810.1	1.36	1.24	1.20
870.1	840.1	1.54	1.30	1.22
910.1	880.1	1.62	1.44	1.29
940.1	910.1	1.70	1.56	1.46
980.1	950.1	1.77	1.66	1.58
1010.1	980.1	1.66	1.52	1.45
1050.1	1020.1	1.22	1.20	1.20
1080.1	1050.1	1.21	1.21	1.21
1120.1	1090.1	1.17	1.15	1.13
1150.1	1120.1	1.15	1.15	1.15
1190.1	1160.1	1.13	1.18	1.26
1220.1	1190.1	1.12	1.16	1.21
1260.1	1230.1	1.16	1.20	1.23
1290.1	1260.1	1.27	1.32	1.38
1330.1	1300.1	1.42	1.46	1.49
1360.1	1330.1	1.52	1.55	1.57
1400.1	1370.1	1.67	1.69	1.69
1430.1	1400.1	1.78	1.80	1.80
1470.1	1440.1	2.00	2.01	2.01
1500.1	1470.1	2.16	2.17	2.17
1540.1	1510.1	2.30	2.32	2.33
1570.1	1540.1	2.39	2.42	2.44
1610.1	1580.1	2.47	2.50	2.52
1640.1	1610.1	2.47	2.52	2.55
1680.1	1650.1	2.63	2.67	2.69
1710.1	1680.1	2.66	2.68	2.68
1750.1	1720.1	2.62	2.66	2.65
1780.1	1750.1	2.60	2.62	2.62
1820.1	1790.1	2.50	2.52	2.51
1850.1	1820.1	2.42	2.42	2.42
1890.1	1860.1	2.49	2.43	2.40
1920.1	1890.1	2.49	2.45	2.45
1960.1	1930.1	2.46	2.40	2.40
1990.1	1960.1	2.44	2.37	2.36
2030.1	2000.1	2.35	2.26	2.25
2060.1	2030.1	2.36	2.27	2.27
2100.1	2070.1	2.48	2.35	2.35
2130.1	2100.1	2.58	2.43	2.42
2170.1	2140.1	2.74	2.59	2.57
2200.1	2170.1	2.92	2.80	2.78

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	0	+3	+6
810.1	1.80	1.73	1.71
840.1	1.75	1.68	1.67
880.1	1.66	1.61	1.60
910.1	1.57	1.54	1.55
950.1	1.47	1.45	1.46
980.1	1.40	1.38	1.41
1020.1	1.33	1.32	1.36
1050.1	1.28	1.27	1.33
1090.1	1.21	1.22	1.30
1120.1	1.16	1.18	1.27
1160.1	1.11	1.15	1.26
1190.1	1.07	1.12	1.25
1230.1	1.01	1.08	1.22
1260.1	1.05	1.05	1.19
1300.1	1.18	1.08	1.11
1330.1	1.34	1.23	1.19
1370.1	1.53	1.41	1.37
1400.1	1.62	1.51	1.45
1440.1	1.74	1.62	1.53
1470.1	1.81	1.67	1.58
1510.1	1.86	1.72	1.61
1540.1	1.83	1.70	1.59
1580.1	1.68	1.60	1.53
1610.1	1.57	1.49	1.45
1650.1	1.43	1.37	1.36
1680.1	1.38	1.32	1.32
1720.1	1.34	1.28	1.28
1750.1	1.30	1.24	1.23
1790.1	1.28	1.20	1.18
1820.1	1.27	1.19	1.15
1860.1	1.29	1.23	1.16
1890.1	1.25	1.18	1.09
1930.1	1.26	1.17	1.07
1960.1	1.28	1.20	1.11
2000.1	1.30	1.24	1.18
2030.1	1.29	1.25	1.22
2070.1	1.27	1.25	1.25
2100.1	1.28	1.26	1.28
2140.1	1.28	1.26	1.29
2170.1	1.27	1.26	1.29

IF (OUT) (MHz)	IF VSWR @LO=1700MHz (:1) @LO (dBm)		
	0	+3	+6
10.0	1.58	1.63	1.65
50.0	1.48	1.53	1.55
90.0	1.53	1.58	1.59
130.0	1.59	1.63	1.64
170.0	1.69	1.72	1.74
210.0	1.78	1.81	1.82
250.0	1.85	1.87	1.88
290.0	1.94	1.95	1.96
330.0	1.97	1.97	1.98
370.0	2.04	2.04	2.04
410.0	2.00	1.99	1.98
450.0	2.00	1.99	1.97
490.0	1.94	1.92	1.91
530.0	2.01	1.98	1.97
570.0	2.10	2.07	2.05
610.0	2.25	2.20	2.18
650.0	2.35	2.30	2.27
690.0	2.28	2.24	2.21
730.0	2.22	2.17	2.15
770.0	2.10	2.06	2.04
810.0	2.09	2.05	2.03
850.0	1.81	2.01	1.75
890.0	1.72	1.70	1.69
930.0	1.59	1.56	1.56
970.0	1.54	1.52	1.51
1010.0	1.48	1.45	1.44
1050.0	1.40	1.38	1.37
1090.0	1.40	1.37	1.36
1130.0	1.41	1.38	1.37
1170.0	1.42	1.40	1.39
1210.0	1.48	1.45	1.44
1270.0	1.54	1.52	1.51
1310.0	1.63	1.60	1.59
1370.0	1.77	1.75	1.74
1410.0	1.95	1.93	1.92
1470.0	2.13	2.11	2.10
1510.0	2.34	2.32	2.31
1570.0	2.58	2.57	2.57
1610.0	2.70	2.71	2.70
1670.0	2.50	2.52	2.50

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+3	6	17	19	33	33	28	32	37	37
1	-	22	+0	16	18	35	33	42	48	42	50	39
2	55	46	65	40	58	45	60	51	62	76	58	64
3	>90	74	66	71	60	67	65	70	69	>83	>83	79
4	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
5	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
6	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
7	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
8	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
9	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
10	>90	>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: 1420 MHz; 0.00 dBm.**
LO IN: 1390 MHz; +3.00 dBm
IF OUT: 30 MHz; -7.14 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	7	14	26	29	45	42	36	42	43	51
1	-	21	+0	15	19	36	35	42	49	43	51	43
2	35	35	52	30	46	36	51	44	54	68	52	56
3	84	57	47	56	41	47	46	52	53	68	74	62
4	88	75	73	67	67	56	68	57	66	63	73	86
5	>90	>93	79	75	71	73	64	76	68	70	72	85
6	>90	>93	>93	>93	83	83	82	74	80	75	83	80
7	>90	>93	>93	>93	>93	92	89	90	83	89	88	89
8	>90	>93	>93	>93	>93	>93	>93	92	93	88	91	92
9	>90	>93	>93	>93	>93	>93	>93	>93	>93	>93	92	>93
10	>90	>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: 1420 MHz; 10.00 dBm.**
LO IN: 1390 MHz; +3.00 dBm
IF OUT: 30 MHz; 2.83 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.