Frequency Mixer LAVI-ED12604/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=500MHz (dB) @LO (dBm)		
		+16	+19	+22
10.1	510.1	6.67	6.54	6.37
60.1	560.1	6.78	6.60	6.46
120.1	620.1	6.87	6.67	6.54
170.1	670.1	6.94	6.75	6.61
230.1	730.1	6.95	6.74	6.58
280.1	780.1	7.03	6.82	6.66
340.1	840.1	6.92	6.69	6.52
390.1	890.1	7.00	6.75	6.57
450.1	950.1	7.01	6.76	6.57
500.1	1000.1	7.07	6.81	6.61
560.1	1060.1	7.21	6.95	6.74
610.1	1110.1	7.21	6.95	6.75
670.1	1170.1	7.41	7.15	6.95
720.1	1220.1	7.49	7.24	7.05
780.1	1280.1	7.63	7.39	7.21
830.1	1330.1	7.70	7.49	7.32
890.1	1390.1	7.73	7.52	7.36
940.1	1440.1	7.76	7.55	7.40
1000.1	1500.1	7.75	7.57	7.43
1050.1	1550.1	7.78	7.61	7.48
1110.1	1610.1	7.83	7.66	7.56
1160.1	1660.1	7.87	7.71	7.61
1220.1	1720.1	7.90	7.74	7.64
1270.1	1770.1	7.97	7.81	7.72
1330.1	1830.1	8.03	7.87	7.77
1380.1	1880.1	8.13	7.97	7.87
1440.1	1940.1	8.27	8.12	8.02
1490.1	1990.1	8.42	8.27	8.17
1550.1	2050.1	8.58	8.43	8.34
1600.1	2100.1	8.77	8.62	8.53
1660.1	2160.1	8.92	8.77	8.68
1710.1	2210.1	9.03	8.88	8.77
1770.1	2270.1	9.15	8.99	8.87
1820.1	2320.1	9.19	9.02	8.88
1880.1	2380.1	9.40	9.19	9.04
1930.1	2430.1	9.44	9.21	9.04
1990.1	2490.1	9.68	9.41	9.22
2040.1	2540.1	9.91	9.59	9.38
2100.1	2600.1	10.33	9.99	9.74
2150.1	2650.1	11.08	10.73	10.48

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+16	+19	+22
10.1	510.1	23.41	25.76	28.34
60.1	560.1	23.58	26.27	29.13
120.1	620.1	24.67	27.25	30.03
170.1	670.1	24.76	27.78	30.68
230.1	730.1	25.25	28.51	31.65
280.1	780.1	24.93	27.73	30.37
340.1	840.1	24.31	27.01	29.66
390.1	890.1	24.08	26.65	29.34
450.1	950.1	23.53	26.00	28.48
500.1	1000.1	23.34	25.84	28.59
560.1	1060.1	23.47	26.05	28.98
610.1	1110.1	23.38	25.94	28.74
670.1	1170.1	23.66	26.33	29.29
720.1	1220.1	23.69	26.25	29.35
780.1	1280.1	23.12	25.84	28.97
830.1	1330.1	22.93	25.69	29.03
890.1	1390.1	22.69	25.40	28.97
940.1	1440.1	22.97	25.75	29.13
1000.1	1500.1	23.46	26.22	29.83
1050.1	1550.1	23.62	26.35	29.90
1110.1	1610.1	24.41	27.50	30.80
1160.1	1660.1	24.67	27.72	31.20
1220.1	1720.1	25.29	28.36	31.90
1270.1	1770.1	25.68	28.63	32.27
1330.1	1830.1	25.76	28.94	32.52
1380.1	1880.1	25.92	29.06	33.03
1440.1	1940.1	26.07	29.26	33.43
1490.1	1990.1	26.41	29.59	33.87
1550.1	2050.1	27.01	30.68	34.78
1600.1	2100.1	27.08	30.70	35.18
1660.1	2160.1	26.98	30.51	34.47
1710.1	2210.1	26.73	30.17	34.27
1770.1	2270.1	26.12	29.13	33.11
1820.1	2320.1	25.84	28.87	32.85
1880.1	2380.1	25.13	28.10	31.84
1930.1	2430.1	24.63	27.45	31.04
1990.1	2490.1	24.09	27.10	30.23
2040.1	2540.1	23.25	26.31	29.09
2100.1	2600.1	23.14	26.09	28.96
2150.1	2650.1	23.45	26.24	29.12

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+17dBm (dB) @LO (dBm)		
		+16	+19	+22
10.1	510.1	2.66	1.27	0.48
60.1	560.1	2.35	1.11	0.44
120.1	620.1	1.98	0.85	0.34
170.1	670.1	1.97	0.85	0.30
230.1	730.1	1.90	0.80	0.29
280.1	780.1	1.90	0.80	0.30
340.1	840.1	1.90	0.84	0.33
390.1	890.1	1.81	0.79	0.33
450.1	950.1	1.83	0.78	0.33
500.1	1000.1	1.80	0.76	0.33
560.1	1060.1	1.71	0.73	0.31
610.1	1110.1	1.70	0.70	0.31
670.1	1170.1	1.63	0.64	0.28
720.1	1220.1	1.50	0.58	0.24
780.1	1280.1	1.51	0.57	0.22
830.1	1330.1	1.32	0.49	0.20
890.1	1390.1	1.27	0.51	0.21
940.1	1440.1	1.16	0.47	0.20
1000.1	1500.1	0.98	0.42	0.18
1050.1	1550.1	0.99	0.42	0.18
1110.1	1610.1	0.83	0.34	0.16
1160.1	1660.1	0.82	0.35	0.16
1220.1	1720.1	0.77	0.34	0.16
1270.1	1770.1	0.72	0.33	0.16
1330.1	1830.1	0.71	0.34	0.16
1380.1	1880.1	0.67	0.32	0.15
1440.1	1940.1	0.67	0.32	0.15
1490.1	1990.1	0.67	0.32	0.15
1550.1	2050.1	0.59	0.27	0.13
1600.1	2100.1	0.60	0.27	0.13
1660.1	2160.1	0.62	0.26	0.12
1710.1	2210.1	0.62	0.27	0.12
1770.1	2270.1	0.73	0.33	0.15
1820.1	2320.1	0.79	0.35	0.16
1880.1	2380.1	0.96	0.44	0.20
1930.1	2430.1	1.16	0.54	0.24
1990.1	2490.1	1.30	0.60	0.29
2040.1	2540.1	1.67	0.78	0.38
2100.1	2600.1	1.69	0.84	0.41
2150.1	2650.1	1.61	0.77	0.36

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1150MHz (dB) @LO (dBm) +19
1139.9	10.1	11.47
1085.2	64.8	9.03
1030.6	119.4	8.62
975.9	174.1	8.39
921.2	228.8	8.19
866.5	283.5	7.95
811.9	338.1	7.88
757.2	392.8	7.77
702.5	447.5	7.63
647.8	502.2	7.61
593.2	556.8	7.58
538.5	611.5	7.50
483.8	666.2	7.48
429.2	720.8	7.46
374.5	775.5	7.56
319.8	830.2	7.58
265.1	884.9	7.62
210.5	939.5	7.63
155.8	994.2	7.61
101.1	1048.9	7.56
46.4	1103.6	7.52
10.0	1160.0	7.77
75.3	1225.3	7.51
140.7	1290.7	7.52
227.8	1377.8	7.60
293.1	1443.1	7.58
380.2	1530.2	7.64
445.5	1595.5	7.63
532.6	1682.6	7.79
597.9	1747.9	7.83
685.1	1835.0	7.97
750.4	1900.4	8.17
837.5	1987.5	8.34
902.8	2052.8	8.48
989.9	2139.9	8.77
1055.2	2205.2	9.09
1142.3	2292.3	9.52
1207.7	2357.7	9.83
1294.8	2444.8	10.45
1360.1	2510.1	11.02

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=689.9MHz (dB) @LO (dBm) +19
10.1	700.0	7.02
50.1	740.0	6.86
90.1	780.0	6.90
130.1	820.0	6.88
170.1	860.0	6.88
210.1	900.0	6.88
250.1	940.0	6.89
290.1	980.0	6.90
330.1	1020.0	6.94
370.1	1060.0	6.96
410.1	1100.0	7.01
450.1	1140.0	7.06
490.1	1180.0	7.15
530.1	1220.0	7.30
570.1	1260.0	7.40
610.1	1300.0	7.52
650.1	1340.0	7.63
690.1	1380.0	7.77
730.1	1420.0	7.88
770.1	1460.0	8.05
810.1	1500.0	8.17
850.1	1540.0	8.29
890.1	1580.0	8.43
930.1	1620.0	8.51
970.1	1660.0	8.61
1010.1	1700.0	8.66
1050.1	1740.0	8.72
1090.1	1780.0	8.87
1130.1	1820.0	8.94
1170.1	1860.0	9.04
1210.1	1900.0	9.07
1230.1	1920.0	9.05
1270.1	1960.0	9.16
1290.1	1980.0	9.25
1330.1	2020.0	9.36
1350.1	2040.0	9.43
1390.1	2080.0	9.71
1410.1	2100.0	9.82
1450.1	2140.0	10.04
1470.1	2160.0	10.26

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1660.1MHz (dB) @LO (dBm) +19
1210.1	450.0	10.18
1169.4	490.7	10.11
1128.7	531.4	9.91
1108.4	551.7	9.79
1067.7	592.4	9.75
1047.4	612.7	9.67
1006.7	653.4	9.51
986.4	673.7	9.45
945.7	714.4	9.30
925.4	734.7	9.19
884.7	775.4	9.11
864.3	795.8	9.09
823.7	836.4	8.92
803.3	856.8	8.95
762.6	897.5	8.91
742.3	917.8	8.85
701.6	958.5	8.81
681.3	978.8	8.81
640.6	1019.5	8.73
620.3	1039.8	8.74
579.6	1080.5	8.74
559.3	1100.8	8.66
518.6	1141.5	8.56
498.2	1161.9	8.51
457.6	1202.5	8.44
437.2	1222.9	8.36
396.5	1263.6	8.38
376.2	1283.9	8.35
335.5	1324.6	8.29
315.2	1344.9	8.29
274.5	1385.6	8.33
254.2	1405.9	8.33
213.5	1446.6	8.32
193.2	1466.9	8.33
152.5	1507.6	8.22
132.1	1528.0	8.23
91.5	1568.6	8.23
71.1	1589.0	8.19
30.4	1629.7	8.20
10.1	1650.0	8.41

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+16	+19	+22	+16	+19	+22
510.1	62.91	64.58	66.09	58.17	57.66	57.25
560.1	61.88	62.64	63.15	55.51	54.96	54.63
620.1	58.97	59.30	59.68	55.00	54.72	54.66
670.1	57.27	57.64	58.00	54.80	54.52	54.50
730.1	55.59	55.84	56.17	53.96	53.68	53.53
780.1	54.09	54.15	54.27	54.27	53.94	53.75
840.1	53.38	53.52	53.57	56.32	55.97	55.68
890.1	52.65	52.82	52.94	57.86	57.49	57.28
950.1	52.33	52.52	52.78	59.38	59.15	58.94
1000.1	51.79	52.00	52.01	58.13	58.04	57.86
1060.1	51.27	51.55	51.70	56.21	56.17	56.12
1110.1	50.17	50.36	50.52	55.17	55.05	55.01
1170.1	49.71	50.07	50.61	53.20	53.17	53.32
1220.1	49.75	50.11	50.65	51.78	51.68	51.79
1280.1	49.67	50.16	50.58	50.12	50.13	50.08
1330.1	49.63	50.03	50.29	48.57	48.58	48.50
1390.1	48.99	49.28	49.01	46.54	46.52	46.38
1440.1	51.69	51.90	51.66	45.60	45.50	45.36
1500.1	51.59	52.08	52.26	44.24	44.40	44.34
1550.1	51.80	52.49	53.16	44.18	44.36	44.35
1610.1	52.05	52.67	53.40	44.48	44.50	44.69
1660.1	52.59	53.30	54.23	44.80	44.79	44.94
1720.1	53.32	54.15	54.98	44.06	44.16	44.23
1770.1	53.68	54.47	55.36	42.57	42.65	42.78
1830.1	54.40	55.32	56.44	40.23	40.30	40.44
1880.1	56.10	57.06	58.88	38.59	38.58	38.67
1940.1	55.96	56.40	57.78	36.94	36.91	36.81
1990.1	55.49	55.52	55.89	35.71	35.88	35.78
2050.1	55.16	54.35	54.28	34.80	34.99	34.99
2100.1	54.69	53.50	52.83	34.30	34.42	34.53
2160.1	56.78	55.10	54.15	33.96	34.06	34.28
2210.1	57.64	56.68	55.59	33.87	33.94	34.17
2270.1	58.80	60.26	59.62	33.71	33.98	34.04
2320.1	57.41	60.73	63.63	33.77	34.03	34.11
2380.1	53.79	56.12	58.98	34.00	34.24	34.34
2430.1	50.99	52.45	53.74	34.19	34.48	34.54
2490.1	48.24	48.95	49.59	34.53	34.64	34.90
2540.1	45.94	46.19	46.45	34.83	34.83	35.22
2600.1	43.80	43.69	43.63	35.04	35.15	35.42
2650.1	42.23	41.91	41.81	35.03	35.10	35.38

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+16	+19	+22
10.1	510.1	45.73	45.95	46.70
60.1	560.1	44.09	43.53	42.98
120.1	620.1	48.50	46.40	45.48
170.1	670.1	51.58	49.74	48.99
230.1	730.1	44.77	42.71	40.66
280.1	780.1	44.05	43.97	44.00
340.1	840.1	40.71	39.72	38.75
390.1	890.1	40.05	39.99	39.77
450.1	950.1	38.33	37.46	37.09
500.1	1000.1	39.18	38.94	39.66
560.1	1060.1	39.17	38.99	39.73
610.1	1110.1	38.98	38.94	40.13
670.1	1170.1	38.25	38.23	39.56
720.1	1220.1	37.86	37.71	38.64
780.1	1280.1	38.77	38.90	41.42
830.1	1330.1	38.71	38.65	39.84
890.1	1390.1	40.14	40.38	43.22
940.1	1440.1	40.83	40.87	42.31
1000.1	1500.1	41.62	41.95	44.57
1050.1	1550.1	40.80	41.00	42.85
1110.1	1610.1	39.26	39.44	40.71
1160.1	1660.1	38.03	38.24	39.72
1220.1	1720.1	36.02	35.98	36.59
1270.1	1770.1	34.99	35.05	35.81
1330.1	1830.1	33.91	33.81	34.08
1380.1	1880.1	33.45	33.42	33.79
1440.1	1940.1	33.61	33.57	33.84
1490.1	1990.1	33.92	33.89	34.13
1550.1	2050.1	34.94	35.01	35.21
1600.1	2100.1	35.64	35.70	35.84
1660.1	2160.1	36.22	36.26	36.39
1710.1	2210.1	36.64	36.61	36.66
1770.1	2270.1	37.40	37.29	37.25
1820.1	2320.1	38.08	37.91	37.76
1880.1	2380.1	39.26	38.96	38.70
1930.1	2430.1	40.34	39.94	39.55
1990.1	2490.1	41.73	41.30	40.85
2040.1	2540.1	43.09	42.83	42.46
2100.1	2600.1	44.89	45.18	45.12
2150.1	2650.1	45.39	46.30	46.72

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+16	+19	+22
10.1	510.1	1.16	1.23	1.22
60.1	560.1	1.19	1.24	1.29
120.1	620.1	1.18	1.22	1.26
170.1	670.1	1.20	1.22	1.25
230.1	730.1	1.26	1.26	1.27
280.1	780.1	1.35	1.35	1.34
340.1	840.1	1.49	1.47	1.46
390.1	890.1	1.61	1.58	1.57
450.1	950.1	1.75	1.72	1.70
500.1	1000.1	1.85	1.82	1.78
560.1	1060.1	1.94	1.90	1.86
610.1	1110.1	2.00	1.95	1.91
670.1	1170.1	2.05	2.00	1.95
720.1	1220.1	2.06	2.01	1.97
780.1	1280.1	2.02	1.98	1.94
830.1	1330.1	1.97	1.93	1.89
890.1	1390.1	1.86	1.82	1.78
940.1	1440.1	1.77	1.73	1.69
1000.1	1500.1	1.68	1.63	1.60
1050.1	1550.1	1.59	1.54	1.50
1110.1	1610.1	1.47	1.43	1.39
1160.1	1660.1	1.39	1.34	1.31
1220.1	1720.1	1.28	1.25	1.22
1270.1	1770.1	1.20	1.17	1.15
1330.1	1830.1	1.12	1.10	1.10
1380.1	1880.1	1.08	1.10	1.13
1440.1	1940.1	1.11	1.15	1.19
1490.1	1990.1	1.16	1.20	1.25
1550.1	2050.1	1.25	1.30	1.34
1600.1	2100.1	1.32	1.37	1.41
1660.1	2160.1	1.40	1.46	1.51
1710.1	2210.1	1.48	1.54	1.59
1770.1	2270.1	1.56	1.61	1.67
1820.1	2320.1	1.65	1.70	1.75
1880.1	2380.1	1.73	1.78	1.83
1930.1	2430.1	1.80	1.84	1.90
1990.1	2490.1	1.87	1.92	1.96
2040.1	2540.1	1.93	1.97	2.01
2100.1	2600.1	2.03	2.07	2.11
2150.1	2650.1	2.13	2.16	2.20

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+16	+19	+22
510.1	4.34	4.33	4.32
560.1	4.22	4.22	4.21
620.1	4.09	4.08	4.07
670.1	3.99	3.99	3.98
730.1	3.86	3.86	3.86
780.1	3.78	3.78	3.76
840.1	3.68	3.68	3.68
890.1	3.59	3.59	3.58
950.1	3.50	3.50	3.50
1000.1	3.43	3.43	3.43
1060.1	3.34	3.33	3.31
1110.1	3.29	3.29	3.30
1170.1	3.21	3.20	3.19
1220.1	3.17	3.17	3.17
1280.1	3.11	3.11	3.10
1330.1	3.08	3.08	3.07
1390.1	3.07	3.07	3.07
1440.1	3.05	3.05	3.03
1500.1	3.10	3.10	3.11
1550.1	3.11	3.11	3.10
1610.1	3.16	3.16	3.16
1660.1	3.21	3.21	3.22
1720.1	3.24	3.24	3.22
1770.1	3.28	3.29	3.30
1830.1	3.26	3.26	3.26
1880.1	3.20	3.20	3.18
1940.1	3.09	3.09	3.10
1990.1	2.92	2.91	2.88
2050.1	2.76	2.76	2.76
2100.1	2.62	2.61	2.60
2160.1	2.47	2.46	2.45
2210.1	2.38	2.38	2.39
2270.1	2.28	2.28	2.27
2320.1	2.25	2.25	2.25
2380.1	2.23	2.23	2.23
2430.1	2.22	2.22	2.22
2490.1	2.26	2.26	2.26
2540.1	2.25	2.25	2.22
2600.1	2.27	2.26	2.26
2650.1	2.22	2.22	2.20

IF (OUT) (MHz)	IF VSWR @LO=2150MHz (:1) @LO (dBm)		
	+16	+19	+22
10.0	1.49	1.60	1.70
60.0	1.51	1.62	1.73
110.0	1.46	1.56	1.66
160.0	1.43	1.53	1.62
210.0	1.38	1.47	1.56
260.0	1.31	1.39	1.47
320.0	1.25	1.31	1.38
370.0	1.17	1.22	1.28
430.0	1.08	1.12	1.17
480.0	1.04	1.03	1.09
540.0	1.12	1.07	1.06
590.0	1.20	1.16	1.13
650.0	1.32	1.28	1.25
700.0	1.41	1.37	1.35
760.0	1.52	1.50	1.48
810.0	1.62	1.60	1.58
870.0	1.71	1.70	1.69
920.0	1.83	1.83	1.83
980.0	1.94	1.95	1.96
1030.0	2.01	2.03	2.05
1090.0	2.16	2.19	2.22
1140.0	2.29	2.33	2.37
1200.0	2.41	2.46	2.52
1250.0	2.53	2.59	2.66
1310.0	2.65	2.72	2.80
1360.0	2.75	2.84	2.92
1420.0	2.92	3.00	3.09
1470.0	3.05	3.15	3.24
1530.0	3.17	3.26	3.35
1580.0	3.33	3.42	3.52
1640.0	3.45	3.54	3.63
1690.0	3.47	3.56	3.65
1750.0	3.56	3.65	3.73
1800.0	3.56	3.65	3.73
1860.0	3.54	3.62	3.69
1910.0	3.60	3.67	3.75
1970.0	3.54	3.61	3.67
2020.0	3.52	3.60	3.67
2080.0	3.50	3.58	3.64
2130.0	3.40	3.47	3.52

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	19	18	23	36	41	46	39	58	54	65
1	-	29	+0	35	21	50	35	48	43	63	59	75
2	63	64	63	80	81	64	>82	70	78	76	>82	>82
3	>90	>82	70	>82	67	>82	78	>82	>82	>82	>82	>82
4	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
5	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
6	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
7	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
8	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
9	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
10	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 1150 MHz; 0.00 dBm.**
LO IN: 1650 MHz; +19.00 dBm
IF OUT: 500 MHz; -7.72 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	30	27	33	45	55	49	50	66	68	68
1	-	29	+0	35	21	51	37	48	45	67	61	77
2	43	54	53	71	62	53	73	60	66	65	80	80
3	67	77	50	66	47	65	57	83	67	76	69	88
4	89	75	87	76	77	74	84	87	>92	83	>92	>92
5	>90	>92	86	81	74	75	81	83	>92	88	>92	89
6	>90	>92	>92	>92	>92	87	88	91	>92	>92	>92	>92
7	>90	>92	>92	>92	91	91	86	91	>92	>92	>92	>92
8	>90	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
9	>90	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
10	>90	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 1150 MHz; 10.00 dBm.**
LO IN: 1650 MHz; +19.00 dBm
IF OUT: 500 MHz; 2.16 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.