

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	6.92	6.38	6.15
70.4	100.4	7.24	6.65	6.40
130.7	160.7	7.34	6.77	6.51
190.9	220.9	7.28	6.75	6.52
251.2	281.2	7.19	6.72	6.53
311.5	341.5	7.21	6.81	6.54
371.8	401.8	7.25	6.83	6.61
432.0	462.0	7.24	6.80	6.55
492.3	522.3	7.32	6.86	6.62
552.6	582.6	7.34	6.84	6.55
612.9	642.9	7.34	6.88	6.61
673.1	703.1	7.49	7.05	6.77
733.4	763.4	7.54	7.02	6.69
793.7	823.7	7.42	6.86	6.58
854.0	884.0	7.48	6.90	6.57
914.2	944.2	7.53	6.81	6.43
974.5	1004.5	7.53	6.78	6.37
1034.8	1064.8	7.54	6.80	6.29
1095.1	1125.1	7.58	6.91	6.42
1155.3	1185.3	7.44	6.92	6.49
1215.6	1245.6	7.26	6.69	6.35
1275.9	1305.9	7.05	6.58	6.22
1336.2	1366.2	6.92	6.51	6.24
1396.4	1426.4	6.89	6.58	6.40
1436.6	1466.6	6.93	6.70	6.57
1496.9	1526.9	7.06	6.86	6.74
1537.1	1567.1	7.07	6.92	6.83
1597.3	1627.3	7.27	7.06	6.96
1637.5	1667.5	7.38	7.18	7.12
1697.8	1727.8	7.58	7.37	7.28
1738.0	1768.0	7.76	7.54	7.46
1798.3	1828.3	8.05	7.81	7.68
1838.4	1868.4	8.25	7.99	7.90
1898.7	1928.7	8.55	8.31	8.15
1938.9	1968.9	8.77	8.46	8.34
1999.2	2029.2	9.14	8.75	8.64
2039.4	2069.4	9.37	8.91	8.79
2099.6	2129.6	9.85	9.38	9.33
2139.8	2169.8	10.16	9.63	9.59
2200.1	2230.1	10.78	10.35	10.73

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	14.85	17.54	19.82
70.4	100.4	14.22	18.49	16.32
130.7	160.7	14.79	14.39	16.57
190.9	220.9	12.18	15.01	18.51
251.2	281.2	12.18	16.49	21.68
311.5	341.5	13.95	18.08	22.29
371.8	401.8	14.66	17.96	18.93
432.0	462.0	14.76	17.55	25.29
492.3	522.3	14.65	16.99	18.41
552.6	582.6	15.00	16.23	16.36
612.9	642.9	15.78	15.83	17.47
673.1	703.1	14.29	15.82	20.44
733.4	763.4	14.45	19.05	21.12
793.7	823.7	16.97	16.48	15.87
854.0	884.0	15.93	13.33	13.01
914.2	944.2	12.78	12.05	10.76
974.5	1004.5	10.62	10.01	8.83
1034.8	1064.8	8.55	8.07	6.63
1095.1	1125.1	7.44	7.39	6.35
1155.3	1185.3	8.16	9.92	11.11
1215.6	1245.6	10.00	13.70	15.29
1275.9	1305.9	11.56	13.61	13.81
1336.2	1366.2	12.41	13.61	14.66
1396.4	1426.4	11.66	13.20	13.92
1436.6	1466.6	12.53	13.12	14.66
1496.9	1526.9	13.21	13.56	13.32
1537.1	1567.1	12.33	13.07	13.75
1597.3	1627.3	14.35	18.01	14.70
1637.5	1667.5	13.38	17.12	16.79
1697.8	1727.8	13.94	16.97	17.86
1738.0	1768.0	13.55	15.21	15.91
1798.3	1828.3	13.09	14.62	15.99
1838.4	1868.4	13.62	15.17	14.26
1898.7	1928.7	12.99	14.39	14.79
1938.9	1968.9	12.72	15.69	15.60
1999.2	2029.2	13.12	13.83	13.00
2039.4	2069.4	12.96	14.38	11.46
2099.6	2129.6	10.52	10.42	10.05
2139.8	2169.8	9.07	10.13	9.05
2200.1	2230.1	7.99	8.71	8.64

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	0.39	0.21	0.14
70.4	100.4	0.52	0.28	0.13
130.7	160.7	0.55	0.34	0.18
190.9	220.9	0.53	0.30	0.30
251.2	281.2	0.47	0.34	0.23
311.5	341.5	0.48	0.36	0.26
371.8	401.8	0.45	0.28	0.22
432.0	462.0	0.52	0.32	0.34
492.3	522.3	0.53	0.33	0.32
552.6	582.6	0.51	0.44	0.33
612.9	642.9	0.46	0.35	0.35
673.1	703.1	0.71	0.59	0.55
733.4	763.4	0.75	0.59	0.56
793.7	823.7	1.00	0.92	0.83
854.0	884.0	1.30	1.19	1.02
914.2	944.2	1.42	1.41	1.31
974.5	1004.5	1.46	1.44	1.50
1034.8	1064.8	1.37	1.45	1.52
1095.1	1125.1	1.58	1.44	1.39
1155.3	1185.3	1.67	1.48	1.20
1215.6	1245.6	1.88	1.57	1.30
1275.9	1305.9	2.09	1.66	1.35
1336.2	1366.2	2.14	1.75	1.43
1396.4	1426.4	1.88	1.52	1.31
1436.6	1466.6	1.72	1.47	1.26
1496.9	1526.9	1.47	1.26	1.09
1537.1	1567.1	1.41	0.97	0.96
1597.3	1627.3	1.22	0.90	0.86
1637.5	1667.5	1.22	0.96	0.79
1697.8	1727.8	1.16	0.84	0.84
1738.0	1768.0	1.12	0.85	0.82
1798.3	1828.3	1.10	0.83	0.78
1838.4	1868.4	1.14	0.81	0.83
1898.7	1928.7	1.18	0.77	0.75
1938.9	1968.9	1.09	0.85	0.67
1999.2	2029.2	1.01	0.96	0.83
2039.4	2069.4	1.07	0.84	0.90
2099.6	2129.6	1.17	1.04	1.04
2139.8	2169.8	1.28	1.28	1.21
2200.1	2230.1	1.22	1.15	0.81

Frequency Mixer

ZX05-10+

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=500.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1000.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
480.0	20.1	7.02	10.0	20.1	6.37	800.0	200.1	7.10
467.9	32.2	7.03	30.0	40.1	6.50	779.7	220.4	7.07
455.9	44.2	7.03	50.0	60.1	6.58	759.5	240.6	7.05
443.8	56.3	6.99	70.0	80.1	6.54	739.2	260.9	7.02
431.8	68.3	6.97	90.0	100.1	6.56	719.0	281.1	7.00
419.7	80.4	6.97	110.0	120.1	6.62	698.7	301.4	6.97
407.7	92.4	6.98	130.0	140.1	6.57	678.5	321.6	6.94
395.6	104.5	6.95	150.0	160.1	6.58	658.2	341.9	6.93
383.6	116.5	6.93	170.0	180.1	6.59	637.9	362.2	6.91
371.5	128.6	6.86	190.0	200.1	6.62	617.7	382.4	6.87
359.5	140.6	6.84	210.0	220.1	6.63	597.4	402.7	6.85
347.4	152.7	6.85	230.0	240.1	6.61	577.2	422.9	6.84
335.4	164.7	6.83	250.0	260.1	6.65	556.9	443.2	6.82
323.3	176.8	6.81	270.0	280.1	6.72	536.7	463.4	6.81
311.3	188.8	6.80	290.0	300.1	6.76	516.4	483.7	6.83
299.2	200.9	6.79	310.0	320.1	6.76	496.2	503.9	6.78
287.2	212.9	6.78	330.0	340.1	6.81	475.9	524.2	6.80
275.1	225.0	6.76	350.0	360.1	6.80	455.6	544.5	6.81
263.1	237.0	6.73	370.0	380.1	6.88	435.4	564.7	6.78
251.0	249.1	6.71	390.0	400.1	6.93	415.1	585.0	6.79
239.0	261.1	6.67	410.0	420.1	6.91	394.9	605.2	6.79
226.9	273.2	6.65	430.0	440.1	6.96	374.6	625.5	6.80
214.9	285.2	6.74	450.0	460.1	7.03	354.4	645.7	6.83
202.8	297.3	6.74	470.0	480.1	7.08	334.1	666.0	6.88
190.8	309.3	6.74	490.0	500.1	7.13	313.8	686.3	6.85
178.7	321.4	6.73	510.0	520.1	7.13	293.6	706.5	6.90
166.7	333.4	6.68	530.0	540.1	7.14	273.3	726.8	6.88
154.6	345.5	6.67	550.0	560.1	7.20	253.1	747.0	6.84
142.6	357.5	6.72	570.0	580.1	7.28	232.8	767.3	6.70
130.5	369.6	6.75	590.0	600.1	7.31	212.6	787.5	6.69
118.5	381.6	6.79	610.0	620.1	7.40	192.3	807.8	6.63
106.4	393.7	6.76	630.0	640.1	7.46	172.1	828.0	6.54
94.4	405.7	6.75	650.0	660.1	7.62	151.8	848.3	6.54
82.3	417.8	6.74	670.0	680.1	7.68	131.5	868.6	6.48
70.3	429.8	6.78	690.0	700.1	7.76	111.3	888.8	6.51
58.2	441.9	6.78	710.0	720.1	7.74	91.0	909.1	6.48
46.2	453.9	6.77	730.0	740.1	7.81	70.8	929.3	6.52
34.1	466.0	6.83	750.0	760.1	7.87	50.5	949.6	6.59
22.1	478.0	6.84	770.0	780.1	7.82	30.3	969.8	6.59
10.0	490.1	6.65	790.0	800.1	7.77	10.0	990.1	6.80

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Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
10.1	55.82	64.63	70.05	49.87	52.50	56.40
70.4	59.83	62.51	64.56	47.14	45.09	43.87
130.7	59.54	60.63	62.03	42.60	40.12	38.49
190.9	58.42	59.40	59.48	38.98	36.55	35.45
251.2	57.59	57.71	56.89	35.81	34.17	33.35
311.5	56.65	56.21	55.07	33.63	32.52	31.76
371.8	56.56	55.57	53.71	32.04	31.12	30.34
432.0	56.43	55.35	53.17	30.92	30.05	29.23
492.3	56.61	56.11	53.73	30.02	29.34	28.58
552.6	56.14	55.28	52.01	29.09	28.26	27.41
612.9	56.27	55.65	51.08	28.61	27.70	26.73
673.1	55.24	59.09	52.88	28.29	27.53	26.56
733.4	53.47	62.90	56.26	27.69	26.87	25.94
793.7	51.52	63.86	61.26	26.90	26.00	25.21
854.0	48.73	56.13	70.38	25.74	24.80	24.10
914.2	46.37	51.96	60.12	24.62	23.54	22.77
974.5	44.52	49.49	56.14	23.75	22.53	21.60
1034.8	43.54	48.31	56.77	22.92	21.69	20.56
1095.1	43.30	48.27	56.90	22.26	21.22	20.06
1155.3	43.50	48.80	51.10	21.51	20.70	19.71
1215.6	45.53	54.88	48.34	20.34	19.40	18.44
1275.9	52.39	49.85	42.83	18.91	17.80	16.95
1336.2	57.38	42.69	38.76	17.49	16.42	15.73
1396.4	44.99	38.17	35.45	16.46	15.51	14.89
1436.6	41.06	35.89	33.59	15.92	15.04	14.43
1496.9	36.84	32.97	30.94	15.26	14.41	13.79
1537.1	34.89	31.55	29.69	14.94	14.11	13.49
1597.3	32.15	29.41	27.79	14.38	13.59	12.98
1637.5	30.71	28.22	26.70	13.98	13.18	12.57
1697.8	28.83	26.64	25.30	13.56	12.75	12.15
1738.0	27.82	25.73	24.45	13.35	12.51	11.92
1798.3	26.54	24.61	23.34	13.07	12.21	11.58
1838.4	26.02	24.16	22.90	12.97	12.10	11.46
1898.7	25.12	23.40	22.15	12.80	11.95	11.29
1938.9	24.38	22.76	21.55	12.64	11.81	11.15
1999.2	23.58	22.15	20.93	12.59	11.78	11.11
2039.4	23.09	21.80	20.62	12.52	11.74	11.07
2099.6	22.12	21.19	20.11	12.42	11.71	11.05
2139.8	21.82	21.09	20.04	12.51	11.85	11.18
2200.1	20.42	20.09	19.14	12.36	11.83	11.15

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	34.08	33.20	47.48
70.4	100.4	33.50	33.42	33.25
130.7	160.7	29.20	29.39	29.44
190.9	220.9	26.18	26.45	26.48
251.2	281.2	24.41	24.71	24.74
311.5	341.5	23.12	23.38	23.50
371.8	401.8	22.07	22.42	22.64
432.0	462.0	21.35	21.77	22.07
492.3	522.3	20.51	20.93	21.28
552.6	582.6	19.75	20.31	20.77
612.9	642.9	19.37	20.10	20.70
673.1	703.1	18.99	19.73	20.27
733.4	763.4	18.56	19.09	19.47
793.7	823.7	17.81	18.18	18.39
854.0	884.0	16.91	17.23	17.46
914.2	944.2	16.39	16.72	16.99
974.5	1004.5	16.17	16.58	16.88
1034.8	1064.8	16.24	16.77	17.21
1095.1	1125.1	16.62	17.28	18.23
1155.3	1185.3	17.39	18.18	19.16
1215.6	1245.6	18.20	18.59	18.82
1275.9	1305.9	18.46	18.26	17.96
1336.2	1366.2	17.81	17.30	16.85
1396.4	1426.4	16.50	15.89	15.40
1436.6	1466.6	15.55	14.89	14.40
1496.9	1526.9	14.23	13.53	13.00
1537.1	1567.1	13.40	12.67	12.11
1597.3	1627.3	12.36	11.62	11.07
1637.5	1667.5	11.65	10.95	10.42
1697.8	1727.8	10.72	10.07	9.60
1738.0	1768.0	10.14	9.52	9.11
1798.3	1828.3	9.31	8.76	8.40
1838.4	1868.4	8.88	8.36	8.03
1898.7	1928.7	8.17	7.71	7.41
1938.9	1968.9	7.79	7.36	7.08
1999.2	2029.2	7.27	6.88	6.62
2039.4	2069.4	7.05	6.68	6.43
2099.6	2129.6	6.68	6.36	6.12
2139.8	2169.8	6.52	6.22	6.01
2200.1	2230.1	6.28	6.02	5.82

Frequency Mixer

ZX05-10+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)				LO (MHz)	LO VSWR (:1)				IF (OUT) (MHz)	IF VSWR @LO=1000.1MHz (:1)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+4	+7	+10			+4	+7	+10			+4	+7	+10
10.1	40.1	1.65	1.44	1.57		10.1	1.10	1.55	2.24		10.1	1.47	1.35	1.17
70.4	100.4	1.55	1.43	1.36		70.4	1.10	1.59	2.25		30.4	1.36	1.18	1.04
130.7	160.7	1.50	1.40	1.32		130.7	1.17	1.63	2.30		50.6	1.40	1.11	1.05
190.9	220.9	1.54	1.44	1.40		190.9	1.24	1.65	2.29		70.9	1.38	1.10	1.05
251.2	281.2	1.55	1.46	1.42		251.2	1.29	1.69	2.33		91.1	1.40	1.12	1.06
311.5	341.5	1.56	1.48	1.44		311.5	1.34	1.76	2.41		111.4	1.38	1.13	1.08
371.8	401.8	1.56	1.49	1.45		371.8	1.37	1.81	2.47		131.6	1.39	1.15	1.09
432.0	462.0	1.57	1.50	1.46		432.0	1.41	1.87	2.53		151.9	1.40	1.15	1.08
492.3	522.3	1.60	1.53	1.49		492.3	1.44	1.92	2.58		172.2	1.42	1.16	1.09
552.6	582.6	1.60	1.53	1.49		552.6	1.47	1.99	2.68		192.4	1.44	1.18	1.09
612.9	642.9	1.60	1.54	1.50		612.9	1.51	2.02	2.71		212.7	1.46	1.22	1.13
673.1	703.1	1.61	1.55	1.51		673.1	1.56	2.10	2.79		232.9	1.46	1.23	1.15
733.4	763.4	1.56	1.51	1.47		733.4	1.63	2.22	2.94		253.2	1.45	1.23	1.14
793.7	823.7	1.53	1.47	1.44		793.7	1.64	2.22	2.92		273.4	1.45	1.23	1.16
854.0	884.0	1.53	1.45	1.41		854.0	1.69	2.27	2.98		293.7	1.46	1.24	1.16
914.2	944.2	1.49	1.41	1.36		914.2	1.78	2.42	3.16		313.9	1.47	1.24	1.17
974.5	1004.5	1.45	1.36	1.31		974.5	1.83	2.44	3.16		334.2	1.45	1.24	1.16
1034.8	1064.8	1.39	1.30	1.23		1034.8	1.90	2.53	3.24		354.5	1.45	1.23	1.15
1095.1	1125.1	1.29	1.20	1.12		1095.1	2.00	2.65	3.36		374.7	1.44	1.23	1.14
1155.3	1185.3	1.19	1.09	1.02		1155.3	2.04	2.69	3.40		395.0	1.46	1.24	1.13
1215.6	1245.6	1.15	1.09	1.10		1215.6	2.08	2.71	3.40		415.2	1.47	1.25	1.14
1275.9	1305.9	1.20	1.20	1.22		1275.9	2.11	2.73	3.41		435.5	1.47	1.25	1.14
1336.2	1366.2	1.29	1.32	1.34		1336.2	2.13	2.74	3.42		455.7	1.48	1.25	1.14
1396.4	1426.4	1.40	1.45	1.49		1396.4	2.11	2.71	3.37		476.0	1.47	1.25	1.13
1436.6	1466.6	1.46	1.51	1.55		1436.6	2.15	2.74	3.40		496.3	1.47	1.24	1.13
1496.9	1526.9	1.58	1.65	1.70		1496.9	2.21	2.78	3.43		516.5	1.48	1.25	1.12
1537.1	1567.1	1.65	1.73	1.79		1537.1	2.26	2.82	3.45		536.8	1.47	1.24	1.12
1597.3	1627.3	1.73	1.80	1.86		1597.3	2.36	2.90	3.51		557.0	1.47	1.24	1.11
1637.5	1667.5	1.78	1.85	1.91		1637.5	2.44	2.95	3.52		577.3	1.48	1.24	1.10
1697.8	1727.8	1.82	1.86	1.91		1697.8	2.55	3.02	3.57		597.5	1.46	1.23	1.09
1738.0	1768.0	1.85	1.89	1.93		1738.0	2.63	3.08	3.60		617.8	1.45	1.22	1.08
1798.3	1828.3	1.81	1.82	1.84		1798.3	2.69	3.07	3.53		638.0	1.46	1.23	1.08
1838.4	1868.4	1.96	1.98	2.01		1838.4	2.79	3.15	3.59		658.3	1.45	1.22	1.07
1898.7	1928.7	1.99	2.00	2.02		1898.7	2.86	3.15	3.54		678.6	1.45	1.21	1.07
1938.9	1968.9	2.14	2.15	2.18		1938.9	2.95	3.18	3.58		698.8	1.45	1.21	1.07
1999.2	2029.2	2.24	2.25	2.27		1999.2	2.96	3.17	3.46		719.1	1.43	1.20	1.05
2039.4	2069.4	2.38	2.39	2.41		2039.4	3.01	3.19	3.49		739.3	1.42	1.19	1.05
2099.6	2129.6	2.45	2.47	2.47		2099.6	2.99	3.12	3.37		759.6	1.42	1.18	1.04
2139.8	2169.8	2.57	2.59	2.59		2139.8	3.01	3.09	3.36		779.8	1.40	1.17	1.04
2200.1	2230.1	2.55	2.56	2.53		2200.1	2.91	2.97	3.17		800.1	1.39	1.16	1.02

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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	0	18	11	32	10	25	17	28	43	48
1	-	14	0	36	15	31	23	36	37	41	46	42
2	105	73	44	72	46	59	48	57	50	61	53	69
3	118	69	81	71	68	73	62	76	69	78	78	105
4	118	95	94	97	80	94	84	95	87	96	96	97
5	119	103	102	103	113	99	87	96	100	99	107	99
6	110	106	101	112	103	99	101	85	98	110	106	110
7	112	107	112	105	111	103	95	86	91	97	96	101
8	122	103	100	103	100	111	109	104	93	88	108	101
9	119	120	102	97	108	105	100	104	97	87	92	102
10	125	98	106	102	100	98	114	102	109	99	91	90
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions: RF IN: 500.10 MHz; -14.00 dBm.
LO IN: 530.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -21.22 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	9	28	24	46	21	37	28	39	57	59
1	-	14	0	34	14	33	23	40	38	45	58	47
2	98	61	36	64	36	53	38	51	43	53	47	62
3	113	49	53	54	50	57	45	56	54	55	61	64
4	122	77	72	68	61	68	61	64	64	66	63	79
5	127	74	75	71	61	72	61	69	64	66	68	76
6	109	101	89	80	73	82	71	87	69	94	68	83
7	118	95	93	92	79	92	79	94	80	87	84	96
8	113	100	105	106	101	105	106	94	92	97	90	92
9	118	111	112	107	102	107	106	129	93	96	92	100
10	113	113	113	108	118	109	111	101	101	100	95	108
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions: RF IN: 500.10 MHz; -4.00 dBm.
LO IN: 530.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -11.38 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.

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