Frequency Mixer ZX05-1LHW+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+7	+10	+13
10.1	40.1	5.74	5.32	5.23
50.1	80.1	5.86	5.57	5.38
90.1	120.1	5.76	5.50	5.40
130.1	160.1	5.81	5.55	5.43
170.1	200.1	5.78	5.55	5.46
200.1	230.1	5.80	5.61	5.51
240.1	270.1	5.87	5.65	5.53
270.1	300.1	5.80	5.61	5.52
310.1	340.1	5.84	5.65	5.54
340.1	370.1	5.92	5.71	5.58
380.1	410.1	5.95	5.72	5.57
410.1	440.1	6.03	5.76	5.58
450.1	480.1	6.13	5.91	5.73
480.1	510.1	6.13	5.94	5.79
520.1	550.1	6.15	5.94	5.79
550.1	580.1	6.15	5.92	5.78
590.1	620.1	6.21	5.93	5.80
620.1	650.1	6.33	5.99	5.84
660.1	690.1	6.57	6.12	5.91
690.1	720.1	6.80	6.29	5.99
730.1	760.1	7.21	6.70	6.24
760.1	790.1	7.32	6.84	6.35
800.1	830.1	7.63	7.13	6.62
830.1	860.1	7.72	7.19	6.67
870.1	900.1	7.96	7.28	6.66
900.1	930.1	8.04	7.24	6.63
940.1	970.1	8.02	7.14	6.61
970.1	1000.1	7.96	7.14	6.71
1010.1	1040.1	8.07	7.35	6.96
1040.1	1070.1	8.13	7.50	7.17
1080.1	1110.1	8.39	7.85	7.56
1110.1	1140.1	8.62	8.14	7.87
1150.1	1180.1	9.14	8.70	8.44
1180.1	1210.1	9.36	8.95	8.71
1220.1	1250.1	9.96	9.57	9.33
1250.1	1280.1	10.10	9.73	9.50
1290.1	1320.1	10.63	10.31	10.09
1320.1	1350.1	11.00	10.69	10.47
1360.1	1390.1	11.40	11.14	10.93
1390.1	1420.1	11.67	11.40	11.22

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+7	+10	+13
10.1	40.1	20.44	22.62	23.34
50.1	80.1	19.95	20.46	21.28
90.1	120.1	18.17	19.05	23.31
130.1	160.1	20.83	24.74	23.03
170.1	200.1	20.25	27.22	20.58
200.1	230.1	21.02	20.37	18.17
240.1	270.1	21.05	19.05	17.54
270.1	300.1	22.54	19.22	17.85
310.1	340.1	15.25	14.34	14.97
340.1	370.1	15.64	14.08	14.35
380.1	410.1	18.36	17.22	18.17
410.1	440.1	15.97	17.28	20.34
450.1	480.1	14.21	13.74	15.11
480.1	510.1	15.62	14.65	15.27
520.1	550.1	15.78	15.48	16.59
550.1	580.1	14.99	14.99	17.23
590.1	620.1	13.87	15.65	18.63
620.1	650.1	12.49	15.27	18.55
660.1	690.1	9.32	13.29	17.19
690.1	720.1	7.21	10.80	15.28
730.1	760.1	5.63	7.69	11.68
760.1	790.1	5.45	6.68	9.82
800.1	830.1	5.58	6.42	8.55
830.1	860.1	6.17	7.11	8.76
870.1	900.1	7.33	8.92	10.77
900.1	930.1	8.07	10.12	12.21
940.1	970.1	9.60	12.64	15.72
970.1	1000.1	11.53	14.98	18.94
1010.1	1040.1	13.78	18.19	24.13
1040.1	1070.1	16.97	21.30	26.42
1080.1	1110.1	21.77	26.08	24.40
1110.1	1140.1	22.93	22.71	23.52
1150.1	1180.1	19.81	19.30	20.87
1180.1	1210.1	20.29	19.10	21.11
1220.1	1250.1	25.02	20.25	20.11
1250.1	1280.1	17.53	20.84	23.09
1290.1	1320.1	16.30	17.39	19.00
1320.1	1350.1	15.20	16.21	17.10
1360.1	1390.1	13.56	14.90	16.06
1390.1	1420.1	12.57	14.12	15.39

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+5dBm (dB) @LO (dBm)		
		+7	+10	+13
10.1	40.1	1.31	0.90	0.73
50.1	80.1	1.14	0.88	0.64
90.1	120.1	1.27	0.90	0.66
130.1	160.1	1.15	0.84	0.59
170.1	200.1	1.20	0.88	0.61
200.1	230.1	1.09	0.76	0.52
240.1	270.1	1.07	0.74	0.53
270.1	300.1	1.17	0.82	0.59
310.1	340.1	1.02	0.72	0.53
340.1	370.1	0.93	0.65	0.47
380.1	410.1	0.98	0.71	0.52
410.1	440.1	0.89	0.66	0.48
450.1	480.1	0.96	0.69	0.50
480.1	510.1	1.04	0.73	0.53
520.1	550.1	1.17	0.81	0.60
550.1	580.1	1.39	0.98	0.70
590.1	620.1	1.57	1.10	0.79
620.1	650.1	1.68	1.20	0.89
660.1	690.1	1.74	1.38	1.04
690.1	720.1	1.73	1.44	1.11
730.1	760.1	1.64	1.39	1.17
760.1	790.1	1.68	1.42	1.23
800.1	830.1	1.61	1.38	1.20
830.1	860.1	1.60	1.41	1.25
870.1	900.1	1.50	1.42	1.32
900.1	930.1	1.47	1.45	1.34
940.1	970.1	1.59	1.60	1.46
970.1	1000.1	1.64	1.62	1.44
1010.1	1040.1	1.69	1.61	1.44
1040.1	1070.1	1.69	1.57	1.40
1080.1	1110.1	1.62	1.48	1.31
1110.1	1140.1	1.48	1.31	1.14
1150.1	1180.1	1.25	1.09	0.92
1180.1	1210.1	1.15	0.98	0.81
1220.1	1250.1	0.88	0.74	0.61
1250.1	1280.1	0.77	0.64	0.53
1290.1	1320.1	0.63	0.45	0.37
1320.1	1350.1	0.55	0.39	0.33
1360.1	1390.1	0.52	0.32	0.26
1390.1	1420.1	0.47	0.26	0.18

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=375.1MHz (dB) @LO (dBm) +10
365.0	10.1	5.69
355.9	19.2	5.64
346.8	28.3	5.68
337.7	37.4	5.67
328.6	46.5	5.64
319.5	55.6	5.63
310.4	64.7	5.60
301.3	73.8	5.62
292.2	82.9	5.61
283.1	92.0	5.56
274.0	101.1	5.56
264.9	110.2	5.52
255.8	119.3	5.49
246.7	128.4	5.51
237.6	137.5	5.48
228.5	146.6	5.51
219.4	155.7	5.50
210.3	164.8	5.47
201.2	173.9	5.55
192.1	183.0	5.51
182.9	192.2	5.53
173.8	201.3	5.54
164.7	210.4	5.47
155.6	219.5	5.54
146.5	228.6	5.56
137.4	237.7	5.56
128.3	246.8	5.59
119.2	255.9	5.57
110.1	265.0	5.58
101.0	274.1	5.56
91.9	283.2	5.55
82.8	292.3	5.49
73.7	301.4	5.45
64.6	310.5	5.61
55.5	319.6	5.61
46.4	328.7	5.60
37.3	337.8	5.66
28.2	346.9	5.65
19.1	356.0	5.65
10.0	365.1	5.74

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB) @LO (dBm) +10
10.0	20.1	5.51
50.0	60.1	5.43
90.0	100.1	5.27
130.0	140.1	5.66
170.0	180.1	5.49
210.0	220.1	5.35
250.0	260.1	5.53
290.0	300.1	5.57
330.0	340.1	5.58
370.0	380.1	5.40
410.0	420.1	5.61
450.0	460.1	5.74
490.0	500.1	5.86
530.0	540.1	5.95
570.0	580.1	5.70
610.0	620.1	5.52
650.0	660.1	5.62
690.0	700.1	5.62
730.0	740.1	5.58
770.0	780.1	5.68
810.0	820.1	5.87
850.0	860.1	5.93
890.0	900.1	6.00
930.0	940.1	5.95
970.0	980.1	5.80
1010.0	1020.1	5.94
1050.0	1060.1	6.02
1090.0	1100.1	6.33
1130.0	1140.1	6.54
1170.0	1180.1	6.80
1210.0	1220.1	7.08
1270.0	1280.1	7.46
1310.0	1320.1	7.83
1370.0	1380.1	8.20
1410.0	1420.1	8.64
1470.0	1480.1	9.29
1510.0	1520.1	9.65
1570.0	1580.1	10.31
1610.0	1620.1	10.53
1670.0	1680.1	11.26

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=750.1MHz (dB) @LO (dBm) +10
740.0	10.1	6.62
720.0	30.1	6.55
700.0	50.1	6.47
680.0	70.1	6.35
660.0	90.1	6.32
640.0	110.1	6.25
620.0	130.1	6.25
600.0	150.1	6.21
580.0	170.1	6.25
560.0	190.1	6.20
540.0	210.1	6.19
520.0	230.1	6.22
500.0	250.1	6.21
480.0	270.1	6.30
460.0	290.1	6.33
440.0	310.1	6.33
420.0	330.1	6.29
400.0	350.1	6.30
380.0	370.1	6.35
360.0	390.1	6.29
340.0	410.1	6.37
320.0	430.1	6.35
300.0	450.1	6.31
280.0	470.1	6.31
260.0	490.1	6.31
240.0	510.1	6.28
220.0	530.1	6.34
200.0	550.1	6.29
180.0	570.1	6.25
160.0	590.1	6.14
140.0	610.1	6.12
130.0	620.1	6.15
110.0	640.1	6.11
100.0	650.1	6.11
80.0	670.1	6.20
70.0	680.1	6.17
50.0	700.1	6.24
40.0	710.1	6.26
20.0	730.1	6.41
10.0	740.1	6.58

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+7	+10	+13	+7	+10	+13
40.1	60.34	62.00	65.14	58.36	59.40	59.86
80.1	56.24	58.08	60.28	57.41	58.55	59.19
120.1	53.14	55.56	58.01	55.06	55.84	56.14
160.1	50.60	53.29	55.72	52.41	52.72	53.36
200.1	48.81	51.46	53.90	49.36	49.95	51.12
230.1	47.77	50.34	52.72	47.39	48.41	49.85
270.1	46.70	49.06	51.24	45.50	46.61	48.10
300.1	45.97	48.76	51.23	44.05	45.64	47.44
340.1	44.54	46.95	49.39	42.14	43.71	45.49
370.1	43.66	45.80	47.96	41.35	42.76	44.29
410.1	43.17	45.51	48.10	40.38	42.28	43.87
440.1	43.02	45.27	47.93	39.93	41.94	43.56
480.1	43.29	45.62	47.96	39.15	40.90	42.48
510.1	43.66	46.32	48.90	38.98	40.72	42.14
550.1	43.89	47.30	50.86	38.80	40.60	41.41
580.1	43.55	47.42	51.37	38.01	39.48	39.85
620.1	42.36	45.97	49.44	35.85	36.95	37.48
650.1	40.65	43.67	46.54	34.88	35.61	36.11
690.1	38.88	41.08	43.32	34.27	34.37	34.29
720.1	37.88	39.60	41.74	33.60	34.00	33.22
760.1	37.26	38.59	39.91	32.64	34.08	33.03
790.1	36.94	38.46	39.56	32.76	34.20	33.99
830.1	36.92	38.63	39.77	33.30	34.38	34.81
860.1	36.84	38.84	40.37	33.53	34.28	34.26
900.1	36.83	39.06	40.43	34.00	34.06	32.90
930.1	36.81	39.05	39.84	34.19	33.11	31.27
970.1	36.89	38.49	38.48	34.05	31.29	29.41
1000.1	37.15	37.91	37.60	33.10	30.08	28.54
1040.1	36.18	36.04	35.53	31.54	28.79	27.37
1070.1	35.03	34.47	33.83	30.39	27.81	26.42
1110.1	33.61	32.82	32.23	29.36	27.09	25.81
1140.1	32.63	31.76	31.16	28.67	26.52	25.29
1180.1	31.82	30.85	30.08	28.03	25.98	24.65
1210.1	31.24	30.13	29.31	27.62	25.66	24.38
1250.1	30.57	29.40	28.41	27.06	25.26	23.96
1280.1	30.24	28.94	27.83	26.67	24.97	23.68
1320.1	29.75	28.40	27.24	26.19	24.66	23.42
1350.1	29.35	28.03	26.81	25.48	24.21	23.03
1390.1	28.66	27.39	26.05	24.67	23.75	22.59
1420.1	28.24	27.08	25.73	24.23	23.60	22.52

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+7	+10	+13
10.1	40.1	47.78	47.69	47.65
50.1	80.1	36.34	36.38	36.49
90.1	120.1	32.02	32.27	32.28
130.1	160.1	29.81	30.00	30.05
170.1	200.1	28.13	28.44	28.63
200.1	230.1	27.33	27.60	27.84
240.1	270.1	26.73	27.05	27.24
270.1	300.1	26.66	27.22	27.57
310.1	340.1	26.09	26.59	27.05
340.1	370.1	26.36	26.73	27.11
380.1	410.1	26.55	26.92	27.31
410.1	440.1	27.74	28.55	29.40
450.1	480.1	26.55	27.23	28.12
480.1	510.1	25.36	25.74	26.21
520.1	550.1	22.77	22.81	22.82
550.1	580.1	22.08	22.07	22.06
590.1	620.1	20.48	20.45	20.42
620.1	650.1	20.02	20.05	20.02
660.1	690.1	19.25	19.45	19.53
690.1	720.1	19.21	19.49	19.84
730.1	760.1	19.09	19.09	19.48
760.1	790.1	19.36	19.24	19.51
800.1	830.1	19.90	19.73	19.79
830.1	860.1	20.31	20.14	20.07
870.1	900.1	20.21	19.90	19.55
900.1	930.1	19.44	19.02	18.60
940.1	970.1	17.66	17.26	16.85
970.1	1000.1	16.24	15.94	15.59
1010.1	1040.1	14.29	14.04	13.79
1040.1	1070.1	13.11	12.88	12.70
1080.1	1110.1	11.53	11.34	11.19
1110.1	1140.1	10.60	10.41	10.26
1150.1	1180.1	9.41	9.24	9.10
1180.1	1210.1	8.70	8.51	8.37
1220.1	1250.1	7.94	7.72	7.57
1250.1	1280.1	7.49	7.26	7.10
1290.1	1320.1	6.95	6.70	6.51
1320.1	1350.1	6.57	6.31	6.11
1360.1	1390.1	6.17	5.88	5.67
1390.1	1420.1	5.91	5.60	5.38

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+7	+10	+13
10.1	40.1	1.17	1.12	1.16
50.1	80.1	1.14	1.05	1.01
90.1	120.1	1.14	1.05	1.03
130.1	160.1	1.11	1.03	1.06
170.1	200.1	1.14	1.07	1.06
200.1	230.1	1.10	1.05	1.06
240.1	270.1	1.11	1.08	1.10
270.1	300.1	1.12	1.08	1.10
310.1	340.1	1.09	1.07	1.11
340.1	370.1	1.11	1.10	1.12
380.1	410.1	1.12	1.11	1.14
410.1	440.1	1.13	1.14	1.18
450.1	480.1	1.16	1.17	1.20
480.1	510.1	1.15	1.17	1.21
520.1	550.1	1.17	1.21	1.25
550.1	580.1	1.16	1.21	1.26
590.1	620.1	1.14	1.19	1.24
620.1	650.1	1.15	1.19	1.23
660.1	690.1	1.16	1.17	1.20
690.1	720.1	1.17	1.16	1.19
730.1	760.1	1.28	1.23	1.23
760.1	790.1	1.35	1.29	1.28
800.1	830.1	1.46	1.40	1.37
830.1	860.1	1.55	1.49	1.45
870.1	900.1	1.70	1.62	1.57
900.1	930.1	1.79	1.70	1.64
940.1	970.1	1.96	1.86	1.80
970.1	1000.1	2.03	1.92	1.87
1010.1	1040.1	2.17	2.08	2.03
1040.1	1070.1	2.26	2.17	2.12
1080.1	1110.1	2.36	2.28	2.24
1110.1	1140.1	2.40	2.33	2.29
1150.1	1180.1	2.49	2.42	2.37
1180.1	1210.1	2.52	2.44	2.39
1220.1	1250.1	2.55	2.47	2.42
1250.1	1280.1	2.48	2.40	2.34
1290.1	1320.1	2.46	2.37	2.30
1320.1	1350.1	2.44	2.35	2.28
1360.1	1390.1	2.35	2.25	2.18
1390.1	1420.1	2.32	2.21	2.12

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+7	+10	+13
40.1	2.22	5.19	5.38
80.1	1.66	2.59	4.01
120.1	1.64	2.51	3.67
160.1	1.60	2.39	3.43
200.1	1.58	2.32	3.27
230.1	1.64	2.42	3.42
270.1	1.60	2.30	3.19
300.1	1.60	2.29	3.16
340.1	1.66	2.37	3.24
370.1	1.66	2.32	3.14
410.1	1.67	2.32	3.13
440.1	1.72	2.37	3.17
480.1	1.72	2.34	3.11
510.1	1.74	2.36	3.14
550.1	1.74	2.32	3.06
580.1	1.76	2.31	3.02
620.1	1.85	2.39	3.11
650.1	1.90	2.40	3.06
690.1	1.96	2.47	3.11
720.1	2.00	2.54	3.18
760.1	1.98	2.53	3.18
790.1	1.98	2.54	3.19
830.1	1.97	2.52	3.17
860.1	1.94	2.47	3.10
900.1	1.92	2.44	3.06
930.1	1.90	2.40	3.02
970.1	1.87	2.36	2.98
1000.1	1.86	2.35	2.98
1040.1	1.87	2.36	2.99
1070.1	1.90	2.38	3.00
1110.1	1.96	2.42	3.02
1140.1	2.04	2.48	3.06
1180.1	2.15	2.55	3.10
1210.1	2.24	2.59	3.13
1250.1	2.37	2.70	3.21
1280.1	2.47	2.75	3.23
1320.1	2.60	2.82	3.27
1350.1	2.72	2.89	3.33
1390.1	2.90	2.98	3.35
1420.1	3.04	3.05	3.40

IF (OUT) (MHz)	IF VSWR @LO=760.1MHz (:1) @LO (dBm)		
	+7	+10	+13
10.1	2.22	1.83	1.52
30.1	2.29	1.90	1.58
50.1	2.16	1.78	1.48
70.1	2.29	1.90	1.58
90.1	2.19	1.82	1.51
110.1	2.27	1.89	1.58
130.1	2.23	1.87	1.57
150.1	2.17	1.81	1.52
170.1	2.29	1.92	1.63
190.1	2.20	1.84	1.56
210.1	2.30	1.94	1.65
230.1	2.20	1.86	1.60
250.1	2.22	1.88	1.61
270.1	2.27	1.93	1.67
290.1	2.19	1.86	1.61
310.1	2.27	1.95	1.70
330.1	2.15	1.84	1.62
350.1	2.25	1.92	1.68
370.1	2.22	1.92	1.70
390.1	2.17	1.87	1.65
410.1	2.22	1.92	1.71
430.1	2.13	1.84	1.64
450.1	2.22	1.91	1.71
470.1	2.16	1.87	1.69
490.1	2.15	1.85	1.66
510.1	2.17	1.87	1.70
530.1	2.10	1.80	1.62
550.1	2.18	1.88	1.68
570.1	2.12	1.82	1.64
590.1	2.16	1.85	1.65
610.1	2.11	1.81	1.63
630.1	2.08	1.77	1.57
650.1	2.16	1.84	1.64
660.1	2.13	1.81	1.61
680.1	2.14	1.81	1.59
690.1	2.18	1.85	1.62
710.1	2.09	1.77	1.56
720.1	2.07	1.74	1.52
740.1	2.18	1.83	1.59
750.1	2.18	1.84	1.61

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	16	30	16	25	20	29	37	39	45	52
1	-	22	+0	29	12	28	21	32	48	46	40	43
2	85	>74	58	65	58	71	60	60	62	66	73	68
3	>90	>74	60	71	59	68	56	71	61	>74	66	>74
4	>90	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74
5	>90	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74
6	>90	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74
7	>90	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74
8	>90	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74
9	>90	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74
10	>90	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74	>74
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 375.1 MHz; -10.00 dBm.
LO IN: 405.1 MHz; +10.00 dBm
IF OUT: 30 MHz; -15.78 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	26	41	27	37	31	40	50	54	64	67
1	-	23	+0	29	12	30	23	37	43	51	50	56
2	65	57	56	63	54	59	51	53	55	60	68	63
3	>90	44	40	49	42	50	39	43	48	49	58	56
4	>90	71	65	68	65	65	62	65	65	69	81	76
5	>90	65	60	59	52	60	50	58	48	58	55	73
6	>90	>84	83	82	81	>84	79	>84	77	78	79	80
7	>90	>84	>84	82	81	68	70	72	68	66	60	63
8	>90	>84	>84	>84	>84	>84	>84	>84	81	>84	79	>84
9	>90	>84	>84	>84	>84	>84	80	78	77	77	74	75
10	>90	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84	>84
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 375.1 MHz; 0.00 dBm.
LO IN: 405.1 MHz; +10.00 dBm
IF OUT: 30 MHz; -5.81 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.