

Frequency Mixer

ZX05-C24+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
280.1	310.1	7.94	6.37	5.98
360.1	390.1	5.80	5.45	5.26
440.1	470.1	6.18	5.60	5.21
520.1	550.1	6.67	6.05	5.66
600.1	630.1	6.25	5.98	5.83
680.1	710.1	6.00	5.81	5.73
760.1	790.1	5.90	5.68	5.63
840.1	870.1	6.44	6.05	5.80
920.1	950.1	6.47	6.11	5.90
1000.1	1030.1	6.32	6.05	5.90
1080.1	1110.1	6.36	6.09	5.92
1160.1	1190.1	6.69	6.19	5.91
1240.1	1270.1	6.45	6.00	5.73
1320.1	1350.1	7.00	6.29	5.78
1400.1	1430.1	5.96	5.49	5.22
1480.1	1510.1	5.79	5.43	5.23
1560.1	1590.1	5.43	4.99	4.86
1640.1	1670.1	5.26	5.05	4.99
1720.1	1750.1	5.42	5.17	5.08
1800.1	1830.1	5.66	5.39	5.30
1880.1	1910.1	5.89	5.65	5.61
1960.1	1990.1	6.29	5.81	5.61
2040.1	2070.1	6.74	6.19	5.88
2120.1	2150.1	7.38	6.73	6.36
2200.1	2230.1	7.27	6.61	6.31
2280.1	2310.1	7.22	6.44	6.25
2360.1	2390.1	7.26	6.44	6.30
2440.1	2470.1	7.55	6.62	6.40
2520.1	2550.1	8.29	7.16	6.84
2600.1	2630.1	8.79	7.48	7.11
2680.1	2710.1	8.50	7.64	7.29
2760.1	2790.1	8.25	7.89	7.65
2820.1	2850.1	7.75	7.59	7.57
2900.1	2930.1	8.43	7.98	7.74
2960.1	2990.1	8.60	8.13	7.91
3040.1	3070.1	8.84	8.52	8.37
3100.1	3130.1	9.86	9.49	9.27
3180.1	3210.1	11.68	11.05	10.63
3240.1	3270.1	12.82	11.98	11.43

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
280.1	310.1	5.02	9.54	21.01
360.1	390.1	9.88	12.98	13.83
440.1	470.1	6.45	8.89	11.30
520.1	550.1	6.89	9.37	11.39
600.1	630.1	6.73	7.42	8.16
680.1	710.1	10.23	9.37	10.52
760.1	790.1	8.76	10.21	14.12
840.1	870.1	17.56	17.83	14.95
920.1	950.1	17.92	14.54	14.01
1000.1	1030.1	14.52	17.36	19.82
1080.1	1110.1	11.77	12.89	13.76
1160.1	1190.1	13.10	12.20	11.89
1240.1	1270.1	7.91	8.85	9.92
1320.1	1350.1	5.62	6.22	7.78
1400.1	1430.1	6.11	5.91	5.76
1480.1	1510.1	4.25	4.33	4.66
1560.1	1590.1	9.03	12.43	13.44
1640.1	1670.1	10.88	11.10	11.91
1720.1	1750.1	12.51	15.11	15.24
1800.1	1830.1	10.14	13.92	15.49
1880.1	1910.1	13.66	10.57	14.10
1960.1	1990.1	7.86	11.58	15.87
2040.1	2070.1	15.12	17.04	16.33
2120.1	2150.1	9.05	10.87	12.71
2200.1	2230.1	7.05	9.10	11.54
2280.1	2310.1	7.58	11.87	14.87
2360.1	2390.1	10.86	14.97	16.94
2440.1	2470.1	13.81	17.91	18.06
2520.1	2550.1	13.60	17.06	16.90
2600.1	2630.1	12.52	12.44	13.91
2680.1	2710.1	16.10	12.95	13.49
2760.1	2790.1	10.72	15.98	13.13
2820.1	2850.1	7.60	10.14	15.98
2900.1	2930.1	10.27	9.95	10.40
2960.1	2990.1	10.34	9.72	10.20
3040.1	3070.1	11.07	13.04	14.52
3100.1	3130.1	14.25	16.57	18.81
3180.1	3210.1	14.78	16.69	18.57
3240.1	3270.1	14.87	16.51	16.95

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
280.1	310.1	1.78	1.27	0.77
360.1	390.1	2.23	1.72	1.41
440.1	470.1	2.60	2.38	2.20
520.1	550.1	1.83	1.72	1.62
600.1	630.1	1.49	1.21	1.00
680.1	710.1	0.96	0.72	0.59
760.1	790.1	1.01	0.75	0.54
840.1	870.1	0.79	0.63	0.52
920.1	950.1	0.79	0.62	0.49
1000.1	1030.1	0.83	0.60	0.45
1080.1	1110.1	0.92	0.68	0.53
1160.1	1190.1	1.18	0.95	0.76
1240.1	1270.1	1.33	1.04	0.84
1320.1	1350.1	1.83	1.77	1.72
1400.1	1430.1	1.69	1.55	1.44
1480.1	1510.1	1.75	1.45	1.25
1560.1	1590.1	1.56	1.08	0.81
1640.1	1670.1	1.09	0.61	0.43
1720.1	1750.1	1.06	0.66	0.47
1800.1	1830.1	1.16	0.71	0.47
1880.1	1910.1	0.89	0.52	0.35
1960.1	1990.1	0.98	0.73	0.54
2040.1	2070.1	0.86	0.70	0.64
2120.1	2150.1	0.76	0.62	0.55
2200.1	2230.1	0.91	0.62	0.47
2280.1	2310.1	0.81	0.50	0.32
2360.1	2390.1	0.75	0.37	0.23
2440.1	2470.1	0.76	0.40	0.25
2520.1	2550.1	0.78	0.53	0.38
2600.1	2630.1	0.50	0.46	0.33
2680.1	2710.1	0.50	0.41	0.34
2760.1	2790.1	0.67	0.39	0.32
2820.1	2850.1	0.93	0.61	0.46
2900.1	2930.1	0.58	0.51	0.44
2960.1	2990.1	0.65	0.49	0.37
3040.1	3070.1	0.65	0.32	0.18
3100.1	3130.1	0.47	0.26	0.17
3180.1	3210.1	0.33	0.18	0.13
3240.1	3270.1	0.39	0.19	0.11

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1200.1MHz (dB)
		@LO (dBm) +7
890.0	310.1	12.57
870.0	330.1	11.20
850.0	350.1	10.30
830.0	370.1	9.75
810.0	390.1	9.19
790.0	410.1	8.98
770.0	430.1	8.68
750.0	450.1	8.68
730.0	470.1	8.63
710.0	490.1	8.37
690.0	510.1	7.99
670.0	530.1	7.57
650.0	550.1	7.10
630.0	570.1	6.56
610.0	590.1	5.98
590.0	610.1	5.50
570.0	630.1	5.34
550.0	650.1	5.39
530.0	670.1	5.48
510.0	690.1	5.65
490.0	710.1	5.90
470.0	730.1	6.23
450.0	750.1	6.70
430.0	770.1	7.09
410.0	790.1	7.22
390.0	810.1	7.32
370.0	830.1	7.18
350.0	850.1	7.02
330.0	870.1	7.00
310.0	890.1	6.86
270.0	930.1	6.57
250.0	950.1	6.39
210.0	990.1	6.17
190.0	1010.1	6.09
150.0	1050.1	5.94
130.0	1070.1	5.91
90.0	1110.1	5.88
70.0	1130.1	5.93
30.0	1170.1	5.99
10.0	1190.1	6.14

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=300.1MHz (dB)
		@LO (dBm) +7
10.0	310.1	6.16
30.0	330.1	5.88
50.0	350.1	5.90
70.0	370.1	5.75
90.0	390.1	5.62
110.0	410.1	5.64
130.0	430.1	5.63
150.0	450.1	5.64
170.0	470.1	5.83
190.0	490.1	5.94
210.0	510.1	5.95
230.0	530.1	6.04
250.0	550.1	5.97
270.0	570.1	6.16
290.0	590.1	6.22
310.0	610.1	6.35
330.0	630.1	6.47
350.0	650.1	6.28
370.0	670.1	5.98
390.0	690.1	5.92
410.0	710.1	5.92
430.0	730.1	5.90
450.0	750.1	6.04
470.0	770.1	6.03
490.0	790.1	5.95
510.0	810.1	5.88
530.0	830.1	5.75
550.0	850.1	5.71
590.0	890.1	5.76
610.0	910.1	5.73
650.0	950.1	5.60
670.0	970.1	5.64
710.0	1010.1	5.96
730.0	1030.1	6.10
770.0	1070.1	6.52
790.0	1090.1	6.88
830.0	1130.1	8.04
850.0	1150.1	8.64
890.0	1190.1	10.83
910.0	1210.1	12.41

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2400.1001MHz (dB)
		@LO (dBm) +7
870.0	1530.1	12.10
850.0	1550.1	11.32
830.0	1570.1	10.61
810.0	1590.1	9.86
790.0	1610.1	9.11
770.0	1630.1	8.63
750.0	1650.1	8.37
730.0	1670.1	8.04
710.0	1690.1	7.97
690.0	1710.1	7.82
670.0	1730.1	7.63
650.0	1750.1	7.54
630.0	1770.1	7.41
610.0	1790.1	7.30
590.0	1810.1	7.29
570.0	1830.1	7.43
550.0	1850.1	7.42
530.0	1870.1	7.33
510.0	1890.1	7.23
490.0	1910.1	7.20
470.0	1930.1	7.30
450.0	1950.1	7.41
430.0	1970.1	7.41
410.0	1990.1	7.44
390.0	2010.1	7.51
370.0	2030.1	7.62
350.0	2050.1	7.59
330.0	2070.1	7.64
310.0	2090.1	7.52
290.0	2110.1	7.39
270.0	2130.1	7.39
250.0	2150.1	7.26
210.0	2190.1	6.87
190.0	2210.1	6.74
150.0	2250.1	6.53
130.0	2270.1	6.42
90.0	2310.1	6.48
70.0	2330.1	6.43
30.0	2370.1	6.32
10.0	2390.1	6.46

Frequency Mixer

ZX05-C24+

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
310.1	48.18	48.47	48.37	22.10	22.69	24.18
390.1	41.16	41.12	41.36	21.11	23.19	24.99
470.1	37.96	38.64	39.22	22.71	24.86	26.66
550.1	44.82	43.90	43.36	25.26	27.40	28.94
630.1	46.12	47.24	47.32	26.78	27.28	27.26
710.1	40.79	40.19	39.76	26.19	25.42	24.78
790.1	38.92	38.57	38.08	26.87	26.01	25.15
870.1	37.72	38.03	38.31	27.87	27.55	27.15
950.1	37.76	37.73	37.62	25.67	27.53	29.20
1030.1	39.09	38.50	38.07	23.46	25.23	26.71
1110.1	40.16	39.31	38.69	24.85	26.27	27.15
1190.1	41.06	39.93	39.11	27.00	28.42	29.22
1270.1	42.60	40.84	39.77	28.06	29.77	31.07
1350.1	41.56	40.41	39.65	28.89	30.96	32.53
1430.1	45.84	40.94	37.90	28.65	31.55	34.34
1510.1	45.28	42.23	39.64	28.07	30.37	32.85
1590.1	39.55	37.13	35.42	26.75	29.14	31.69
1670.1	36.18	34.15	32.76	26.79	28.88	31.17
1750.1	36.23	34.36	32.62	25.06	26.79	28.66
1830.1	34.30	32.44	31.00	23.69	25.13	26.52
1910.1	32.67	30.82	29.44	23.27	24.43	25.20
1990.1	31.96	30.59	29.54	23.32	24.32	24.92
2070.1	31.88	30.53	29.34	25.76	26.96	28.01
2150.1	31.15	30.53	29.81	26.25	27.22	27.47
2230.1	31.58	31.04	30.06	25.17	25.31	24.97
2310.1	32.55	32.98	32.12	25.37	25.28	24.82
2390.1	32.69	33.61	34.03	25.73	26.26	25.98
2470.1	32.81	33.66	33.74	28.73	29.78	29.79
2550.1	35.95	33.60	31.23	31.29	30.41	29.08
2630.1	40.79	36.66	33.45	31.05	28.12	25.74
2710.1	40.94	35.30	32.54	28.37	25.44	23.62
2790.1	36.15	32.35	30.75	26.01	23.89	22.70
2850.1	32.97	30.53	29.00	24.11	23.09	22.28
2930.1	35.05	34.04	32.98	23.08	22.95	22.59
2990.1	32.74	32.25	31.97	22.72	22.90	22.82
3070.1	31.04	31.15	31.30	20.79	21.50	21.80
3130.1	31.16	31.69	32.03	19.72	20.84	21.58
3210.1	31.68	32.51	33.20	19.05	20.46	21.55
3270.1	32.70	33.41	34.27	18.81	20.37	21.87

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
280.1	310.1	21.71	19.40	18.53
360.1	390.1	17.34	16.49	16.00
440.1	470.1	14.31	13.93	13.69
520.1	550.1	17.43	16.86	16.48
600.1	630.1	24.26	23.53	23.00
680.1	710.1	31.33	30.18	29.16
760.1	790.1	29.27	27.42	25.70
840.1	870.1	27.67	26.25	25.36
920.1	950.1	28.04	27.08	26.40
1000.1	1030.1	36.98	36.54	36.16
1080.1	1110.1	32.64	32.15	31.81
1160.1	1190.1	28.72	28.21	27.76
1240.1	1270.1	25.34	24.92	24.65
1320.1	1350.1	21.67	20.92	20.67
1400.1	1430.1	23.38	21.93	20.49
1480.1	1510.1	22.15	21.65	21.23
1560.1	1590.1	22.29	22.24	22.21
1640.1	1670.1	22.66	22.74	22.96
1720.1	1750.1	23.66	23.44	23.28
1800.1	1830.1	24.11	23.83	23.66
1880.1	1910.1	26.35	25.38	24.85
1960.1	1990.1	28.99	27.05	25.86
2040.1	2070.1	28.41	27.08	25.86
2120.1	2150.1	24.22	22.99	21.96
2200.1	2230.1	41.91	35.83	30.50
2280.1	2310.1	29.79	30.98	29.54
2360.1	2390.1	32.04	29.89	28.28
2440.1	2470.1	36.62	30.02	27.79
2520.1	2550.1	35.76	38.18	34.42
2600.1	2630.1	24.05	22.70	21.97
2680.1	2710.1	20.37	19.52	19.11
2760.1	2790.1	18.05	17.29	16.90
2820.1	2850.1	16.76	16.25	15.80
2900.1	2930.1	15.87	15.54	15.21
2960.1	2990.1	15.36	15.01	14.68
3040.1	3070.1	14.61	14.43	14.19
3100.1	3130.1	13.97	13.85	13.72
3180.1	3210.1	13.43	13.30	13.14
3240.1	3270.1	13.45	13.24	13.03

Frequency Mixer

ZX05-C24+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=2400MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+4	+7	+10		+4	+7	+10		+4	+7	+10
280.1	310.1	2.69	2.31	2.25	310.1	16.56	10.43	8.86	10.1	1.27	1.12	1.29
360.1	390.1	1.74	1.66	1.62	390.1	4.30	4.43	5.20	30.1	1.26	1.13	1.29
440.1	470.1	2.28	2.09	1.95	470.1	2.22	2.80	3.60	50.1	1.28	1.12	1.27
520.1	550.1	3.31	3.02	2.83	550.1	1.54	2.05	2.71	70.1	1.28	1.11	1.27
600.1	630.1	3.30	3.20	3.14	630.1	1.42	1.81	2.39	90.1	1.35	1.08	1.22
680.1	710.1	2.93	2.78	2.72	710.1	1.63	2.00	2.61	110.1	1.35	1.11	1.24
760.1	790.1	2.98	2.71	2.46	790.1	1.98	2.50	3.21	130.1	1.39	1.10	1.21
840.1	870.1	3.39	3.14	2.93	870.1	2.35	3.04	3.91	150.1	1.42	1.13	1.22
920.1	950.1	3.32	3.08	2.88	950.1	2.48	3.32	4.34	170.1	1.47	1.10	1.16
1000.1	1030.1	3.02	2.84	2.71	1030.1	2.46	3.35	4.41	190.1	1.57	1.18	1.18
1080.1	1110.1	2.94	2.77	2.62	1110.1	2.74	3.54	4.51	210.1	1.58	1.20	1.21
1160.1	1190.1	3.29	3.05	2.84	1190.1	3.09	3.72	4.56	230.1	1.63	1.23	1.20
1240.1	1270.1	2.74	2.54	2.39	1270.1	3.21	3.64	4.32	250.1	1.67	1.24	1.20
1320.1	1350.1	2.78	2.50	2.36	1350.1	3.27	3.48	3.93	270.1	1.76	1.28	1.19
1400.1	1430.1	2.22	1.90	1.65	1430.1	3.06	3.14	3.53	290.1	1.83	1.34	1.23
1480.1	1510.1	1.79	1.59	1.44	1510.1	2.61	2.47	2.75	310.1	1.86	1.35	1.23
1560.1	1590.1	1.31	1.23	1.25	1590.1	2.22	2.01	2.27	330.1	1.92	1.37	1.23
1640.1	1670.1	1.30	1.35	1.42	1670.1	2.39	2.04	2.18	350.1	1.96	1.39	1.22
1720.1	1750.1	1.36	1.36	1.38	1750.1	2.13	1.82	2.01	370.1	2.07	1.47	1.27
1800.1	1830.1	1.52	1.51	1.50	1830.1	2.13	1.83	2.02	390.1	2.11	1.50	1.28
1880.1	1910.1	1.89	1.92	1.96	1910.1	2.25	2.02	2.18	410.1	2.17	1.54	1.31
1960.1	1990.1	2.17	1.98	1.86	1990.1	2.39	2.20	2.37	430.1	2.17	1.53	1.30
2040.1	2070.1	2.74	2.50	2.31	2070.1	2.61	2.32	2.46	450.1	2.25	1.61	1.36
2120.1	2150.1	3.24	2.93	2.72	2150.1	2.94	2.33	2.32	470.1	2.30	1.66	1.40
2200.1	2230.1	3.47	3.09	2.91	2230.1	3.59	2.48	2.22	490.1	2.29	1.65	1.41
2280.1	2310.1	3.26	2.77	2.61	2310.1	4.24	2.68	2.15	510.1	2.29	1.68	1.43
2360.1	2390.1	2.93	2.47	2.35	2390.1	4.95	2.94	2.08	530.1	2.27	1.67	1.44
2440.1	2470.1	2.77	2.31	2.16	2470.1	5.27	3.07	2.00	550.1	2.34	1.75	1.53
2520.1	2550.1	2.79	2.38	2.24	2550.1	5.10	2.96	1.92	570.1	2.31	1.73	1.52
2600.1	2630.1	3.10	2.77	2.68	2630.1	4.69	2.85	2.06	590.1	2.31	1.76	1.57
2680.1	2710.1	3.07	2.90	2.84	2710.1	4.01	2.67	2.32	610.1	2.26	1.74	1.58
2760.1	2790.1	2.93	2.93	2.92	2790.1	3.34	2.72	2.75	630.1	2.27	1.81	1.68
2820.1	2850.1	2.78	2.75	2.72	2850.1	3.02	2.91	3.16	650.1	2.30	1.86	1.75
2900.1	2930.1	3.34	3.24	3.09	2930.1	2.90	3.19	3.63	670.1	2.28	1.90	1.84
2960.1	2990.1	3.47	3.29	3.11	2990.1	2.88	3.30	3.78	690.1	2.27	1.95	1.93
3040.1	3070.1	3.70	3.48	3.32	3070.1	2.66	3.20	3.75	710.1	2.29	2.07	2.12
3100.1	3130.1	4.37	4.06	3.86	3130.1	2.71	3.24	3.76	750.1	2.45	2.41	2.54
3180.1	3210.1	5.51	5.00	4.79	3210.1	2.94	3.34	3.76	770.1	2.60	2.66	2.83
3240.1	3270.1	6.30	5.66	5.47	3270.1	3.27	3.55	3.86	810.1	3.04	3.34	3.60

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	4	24	5	22	16	22	48	48	35	63
1	-	13	+0	21	28	23	40	37	34	47	40	50
2	82	61	64	49	>70	63	44	66	50	56	66	>70
3	>90	58	64	67	49	62	63	61	>70	67	60	68
4	>90	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70
5	>90	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70
6	>90	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70
7	>90	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70
8	>90	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70
9	>90	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70
10	>90	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70	>70
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1350 MHz; -14.00 dBm.
LO IN: 1380 MHz; +7.00 dBm
IF OUT: 30 MHz; -20.34 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	14	37	16	35	28	35	52	60	45	72
1	-	13	+0	24	29	27	45	43	45	60	51	65
2	63	50	53	38	57	62	40	64	46	51	66	72
3	>90	42	43	48	28	44	50	48	56	58	50	64
4	>90	65	62	59	68	51	60	67	49	62	61	61
5	>90	55	57	60	62	67	47	56	58	56	62	65
6	>90	54	64	71	73	78	>79	70	70	70	60	75
7	>90	70	65	77	76	>79	70	>79	57	73	67	70
8	>90	>79	>79	69	>79	>79	>79	>79	>79	71	>79	>79
9	>90	>79	>79	>79	75	>79	>79	>79	>79	>79	72	>79
10	>90	>79	>79	>79	>79	77	>79	>79	>79	>79	>79	>79
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1350 MHz; -4.00 dBm.
LO IN: 1380 MHz; +7.00 dBm
IF OUT: 30 MHz; -10.55 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.