

Frequency Mixer

ZX05-C42MH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+10	+13	+16
860.0	890.0	8.49	6.50	5.88
880.0	910.0	8.11	6.52	5.92
980.0	1010.0	6.92	6.00	5.51
1080.0	1110.0	6.66	6.03	5.53
1180.0	1210.0	6.16	5.88	5.65
1280.0	1310.0	5.96	5.76	5.60
1380.0	1410.0	5.81	5.61	5.55
1480.0	1510.0	5.92	5.62	5.47
1580.0	1610.0	6.21	5.89	5.67
1680.0	1710.0	6.03	5.73	5.56
1780.0	1810.0	5.88	5.65	5.54
1880.0	1910.0	5.80	5.63	5.55
1980.0	2010.0	5.94	5.66	5.52
2080.0	2110.0	5.94	5.63	5.47
2180.0	2210.0	6.19	5.65	5.40
2280.0	2310.0	6.54	5.92	5.58
2380.0	2410.0	6.39	5.72	5.41
2460.0	2490.0	6.24	5.62	5.39
2560.0	2590.0	7.26	6.41	5.85
2640.0	2670.0	7.25	6.28	5.83
2740.0	2770.0	7.32	6.39	5.86
2820.0	2850.0	7.31	6.47	6.08
2920.0	2950.0	7.06	6.15	5.73
3000.0	3030.0	7.00	5.72	5.55
3100.0	3130.0	7.21	5.77	5.59
3180.0	3210.0	7.58	5.84	5.66
3280.0	3310.0	7.61	5.85	5.65
3360.0	3390.0	7.36	5.79	5.60
3460.0	3490.0	7.32	5.82	5.62
3540.0	3570.0	7.49	6.23	5.91
3640.0	3670.0	7.60	6.08	5.77
3720.0	3750.0	8.25	6.61	6.18
3820.0	3850.0	8.13	6.68	6.22
3900.0	3930.0	8.34	7.00	6.43
4000.0	4030.0	8.53	7.13	6.48
4080.0	4110.0	8.81	7.35	6.73
4180.0	4210.0	9.99	7.26	6.68
4260.0	4290.0	11.86	7.13	6.45

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+10	+13	+16
860.0	890.0	10.11	17.62	18.41
880.0	910.0	12.45	16.36	17.03
980.0	1010.0	13.67	15.20	16.46
1080.0	1110.0	15.20	16.05	17.55
1180.0	1210.0	17.45	15.05	16.18
1280.0	1310.0	19.40	18.40	17.29
1380.0	1410.0	17.85	18.32	20.80
1480.0	1510.0	18.79	18.96	19.35
1580.0	1610.0	21.11	26.58	23.70
1680.0	1710.0	19.71	22.07	23.43
1780.0	1810.0	18.13	19.72	21.58
1880.0	1910.0	19.47	21.21	23.84
1980.0	2010.0	17.69	19.49	20.93
2080.0	2110.0	17.96	18.27	19.73
2180.0	2210.0	19.07	19.51	18.72
2280.0	2310.0	17.67	16.40	17.04
2380.0	2410.0	15.82	16.59	17.54
2460.0	2490.0	21.50	16.26	18.36
2560.0	2590.0	18.62	19.31	16.78
2640.0	2670.0	17.26	19.03	17.03
2740.0	2770.0	13.44	16.71	17.70
2820.0	2850.0	12.80	14.90	15.95
2920.0	2950.0	11.65	14.81	20.24
3000.0	3030.0	10.47	20.17	23.02
3100.0	3130.0	12.01	17.79	18.37
3180.0	3210.0	18.52	16.95	20.00
3280.0	3310.0	23.79	16.80	20.52
3360.0	3390.0	17.45	17.61	18.70
3460.0	3490.0	14.74	19.61	22.66
3540.0	3570.0	15.93	25.80	23.76
3640.0	3670.0	12.02	19.03	21.80
3720.0	3750.0	16.33	30.06	25.53
3820.0	3850.0	17.39	20.96	25.46
3900.0	3930.0	18.25	20.11	24.55
4000.0	4030.0	17.81	18.93	20.15
4080.0	4110.0	16.78	18.79	18.59
4180.0	4210.0	13.17	16.76	18.52
4260.0	4290.0	8.07	15.18	19.57

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+9dBm (dB)		
		@LO (dBm)		
		+10	+13	+16
860.0	890.0	2.77	3.29	2.88
880.0	910.0	2.94	3.15	2.84
980.0	1010.0	3.12	3.05	2.82
1080.0	1110.0	2.49	2.48	2.39
1180.0	1210.0	2.25	1.99	1.85
1280.0	1310.0	1.87	1.57	1.40
1380.0	1410.0	1.58	1.32	1.10
1480.0	1510.0	1.35	1.17	1.02
1580.0	1610.0	1.14	0.93	0.79
1680.0	1710.0	1.29	0.97	0.80
1780.0	1810.0	1.28	0.94	0.75
1880.0	1910.0	1.29	0.93	0.76
1980.0	2010.0	1.42	1.07	0.89
2080.0	2110.0	1.44	1.08	0.90
2180.0	2210.0	1.62	1.31	1.14
2280.0	2310.0	1.74	1.40	1.21
2380.0	2410.0	1.72	1.38	1.14
2460.0	2490.0	1.75	1.21	1.02
2560.0	2590.0	1.53	1.31	1.28
2640.0	2670.0	1.43	1.22	1.11
2740.0	2770.0	1.36	1.04	1.06
2820.0	2850.0	1.46	0.99	0.88
2920.0	2950.0	1.37	1.05	0.89
3000.0	3030.0	1.25	0.86	0.60
3100.0	3130.0	0.92	0.51	0.40
3180.0	3210.0	0.79	0.54	0.35
3280.0	3310.0	0.71	0.53	0.31
3360.0	3390.0	0.97	0.68	0.31
3460.0	3490.0	1.22	1.04	0.68
3540.0	3570.0	0.95	0.86	0.74
3640.0	3670.0	0.72	0.82	0.60
3720.0	3750.0	0.14	0.60	0.54
3820.0	3850.0	0.36	0.57	0.58
3900.0	3930.0	0.29	0.41	0.53
4000.0	4030.0	0.47	0.39	0.55
4080.0	4110.0	0.49	0.36	0.51
4180.0	4210.0	-0.17	0.45	0.55
4260.0	4290.0	-1.81	0.49	0.49

Frequency Mixer

ZX05-C42MH+

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2600.1001MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1000.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=4200.1001MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+13			+13			+13
1770.0	830.1	10.91	10.0	1010.1	6.04	1750.0	2450.1	10.90
1670.0	930.1	9.46	50.0	1050.1	5.73	1710.0	2490.1	10.18
1570.0	1030.1	8.69	90.0	1090.1	5.59	1670.0	2530.1	9.70
1470.0	1130.1	7.88	130.0	1130.1	5.72	1630.0	2570.1	9.29
1390.0	1210.1	6.75	170.0	1170.1	5.69	1590.0	2610.1	8.96
1290.0	1310.1	5.50	210.0	1210.1	5.62	1550.0	2650.1	8.65
1210.0	1390.1	5.61	250.0	1250.1	5.53	1510.0	2690.1	8.46
1110.0	1490.1	6.14	290.0	1290.1	5.41	1470.0	2730.1	8.41
1030.0	1570.1	6.71	330.0	1330.1	5.39	1430.0	2770.1	8.18
930.0	1670.1	7.52	370.0	1370.1	5.35	1390.0	2810.1	8.33
850.0	1750.1	7.32	410.0	1410.1	5.31	1350.0	2850.1	8.23
750.0	1850.1	6.42	470.0	1470.1	5.14	1310.0	2890.1	8.19
670.0	1930.1	6.54	510.0	1510.1	5.36	1270.0	2930.1	8.00
570.0	2030.1	6.66	570.0	1570.1	5.67	1230.0	2970.1	7.38
490.0	2110.1	6.32	610.0	1610.1	5.90	1190.0	3010.1	7.38
390.0	2210.1	5.97	670.0	1670.1	5.53	1150.0	3050.1	7.50
310.0	2290.1	5.52	710.0	1710.1	5.47	1110.0	3090.1	7.61
210.0	2390.1	5.75	770.0	1770.1	5.59	1070.0	3130.1	7.74
130.0	2470.1	6.12	810.0	1810.1	5.43	1030.0	3170.1	7.71
30.0	2570.1	6.58	870.0	1870.1	5.31	990.0	3210.1	7.98
50.0	2650.1	6.45	910.0	1910.1	5.35	950.0	3250.1	8.03
150.0	2750.1	6.61	970.0	1970.1	5.39	910.0	3290.1	8.15
230.0	2830.1	6.84	1010.0	2010.1	5.51	870.0	3330.1	7.87
330.0	2930.1	6.61	1070.0	2070.1	5.55	810.0	3390.1	7.94
410.0	3010.1	5.96	1110.0	2110.1	5.46	770.0	3430.1	7.71
510.0	3110.1	5.96	1170.0	2170.1	5.81	710.0	3490.1	7.69
590.0	3190.1	5.89	1210.0	2210.1	5.99	670.0	3530.1	7.52
690.0	3290.1	6.05	1270.0	2270.1	5.84	610.0	3590.1	7.51
770.0	3370.1	6.05	1310.0	2310.1	5.84	570.0	3630.1	7.47
870.0	3470.1	6.16	1370.0	2370.1	5.93	510.0	3690.1	7.44
950.0	3550.1	6.37	1410.0	2410.1	5.98	470.0	3730.1	7.31
1050.0	3650.1	6.41	1470.0	2470.1	6.17	410.0	3790.1	7.28
1130.0	3730.1	6.47	1510.0	2510.1	6.38	370.0	3830.1	7.20
1230.0	3830.1	6.56	1570.0	2570.1	6.62	310.0	3890.1	6.96
1310.0	3910.1	6.42	1610.0	2610.1	6.97	270.0	3930.1	6.99
1410.0	4010.1	6.53	1670.0	2670.1	7.46	210.0	3990.1	6.98
1490.0	4090.1	6.84	1710.0	2710.1	7.82	170.0	4030.1	7.01
1590.0	4190.1	7.49	1770.0	2770.1	8.62	110.0	4090.1	7.02
1670.0	4270.1	8.82	1810.0	2810.1	9.39	70.0	4130.1	7.08
1770.0	4370.1	10.68	1870.0	2870.1	11.46	10.0	4190.1	7.03

Frequency Mixer

ZX05-C42MH+

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+10	+13	+16	+10	+13	+16
890.0	32.27	32.95	34.48	17.28	19.97	22.58
910.0	31.27	32.30	33.78	17.32	20.03	22.58
1010.0	30.96	32.25	33.63	18.23	20.97	23.31
1110.0	34.79	35.19	35.90	19.78	23.06	25.85
1210.0	41.16	42.49	42.70	21.71	25.09	27.40
1310.0	54.43	54.76	47.47	23.97	26.40	27.04
1410.0	46.63	42.61	39.09	26.26	26.26	25.11
1510.0	42.36	39.74	37.04	26.07	24.62	23.25
1610.0	39.38	38.16	37.03	28.09	25.63	23.57
1710.0	39.57	38.67	38.00	24.83	22.90	21.77
1810.0	38.28	38.13	37.63	23.30	22.17	21.38
1910.0	35.87	36.50	36.56	22.19	22.02	21.81
2010.0	33.88	34.90	35.31	21.52	22.42	23.00
2110.0	32.90	33.95	34.49	20.66	22.42	24.11
2210.0	32.48	33.25	33.73	19.92	21.67	23.16
2310.0	32.51	33.55	33.73	20.19	20.70	20.53
2410.0	32.40	34.26	35.09	21.43	20.24	18.99
2490.0	33.99	37.16	38.56	22.92	20.46	18.96
2590.0	33.82	37.87	41.44	23.94	20.73	19.29
2670.0	34.40	39.33	42.66	24.63	21.16	19.37
2770.0	34.84	39.87	44.64	24.97	21.75	20.05
2850.0	35.21	40.27	48.91	25.19	21.79	20.51
2950.0	35.79	40.14	50.14	25.30	22.24	21.20
3030.0	34.12	37.71	43.30	26.79	24.79	23.59
3130.0	34.57	37.29	38.55	27.71	26.45	26.27
3210.0	33.40	35.69	36.18	28.16	27.83	28.09
3310.0	31.46	32.58	33.04	29.27	29.01	29.31
3390.0	30.14	31.16	30.94	31.33	31.24	29.91
3490.0	28.16	29.15	29.06	34.69	32.24	28.99
3570.0	26.71	27.93	27.75	36.77	31.49	27.92
3670.0	24.87	26.06	26.70	39.45	34.32	29.13
3750.0	23.30	24.17	25.09	41.14	38.33	30.23
3850.0	22.34	23.34	24.25	34.63	36.96	31.68
3930.0	21.68	22.65	23.46	33.13	36.00	39.70
4030.0	21.13	22.24	23.18	31.52	35.63	38.75
4110.0	21.02	22.16	23.22	26.41	28.71	31.18
4210.0	21.07	22.41	23.80	22.51	23.23	24.63
4290.0	21.34	22.65	24.34	20.13	20.06	21.11

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+10	+13	+16
860.0	890.0	12.14	11.02	10.71
880.0	910.0	11.91	11.10	10.81
980.0	1010.0	13.28	12.59	12.23
1080.0	1110.0	17.29	16.25	15.55
1180.0	1210.0	21.69	21.06	20.27
1280.0	1310.0	26.82	26.29	24.63
1380.0	1410.0	27.25	26.07	24.25
1480.0	1510.0	23.96	22.54	21.21
1580.0	1610.0	21.58	20.15	18.86
1680.0	1710.0	20.40	19.66	19.07
1780.0	1810.0	19.98	19.35	18.91
1880.0	1910.0	20.25	19.70	19.29
1980.0	2010.0	20.82	20.24	19.83
2080.0	2110.0	21.34	20.73	20.34
2180.0	2210.0	23.28	22.87	22.48
2280.0	2310.0	29.61	29.08	28.68
2380.0	2410.0	26.12	25.34	24.75
2460.0	2490.0	20.89	20.25	19.88
2560.0	2590.0	17.84	17.27	16.88
2640.0	2670.0	15.97	15.46	14.98
2740.0	2770.0	14.79	14.36	13.95
2820.0	2850.0	14.46	14.04	13.69
2920.0	2950.0	14.37	13.79	13.29
3000.0	3030.0	14.46	13.77	13.52
3100.0	3130.0	14.52	14.21	14.10
3180.0	3210.0	15.35	14.98	14.82
3280.0	3310.0	17.11	17.02	16.50
3360.0	3390.0	18.99	19.26	18.71
3460.0	3490.0	25.19	27.16	26.70
3540.0	3570.0	25.81	22.22	21.23
3640.0	3670.0	23.75	22.05	21.51
3720.0	3750.0	30.00	27.27	25.95
3820.0	3850.0	24.32	21.86	20.73
3900.0	3930.0	28.64	25.15	23.98
4000.0	4030.0	28.02	32.79	31.98
4080.0	4110.0	24.21	27.24	28.64
4180.0	4210.0	21.78	25.22	27.01
4260.0	4290.0	20.88	25.41	29.25

Frequency Mixer

ZX05-C42MH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=4200MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+10	+13	+16		+10	+13	+16		+10	+13	+16
860.0	890.0	2.27	1.78	1.61	890.0	8.95	6.56	7.11	10.0	1.92	1.05	1.22
880.0	910.0	2.27	1.87	1.70	910.0	7.11	6.01	6.78	50.0	1.86	1.06	1.20
980.0	1010.0	2.72	2.37	2.19	1010.0	3.71	4.34	5.44	90.0	1.86	1.08	1.23
1080.0	1110.0	3.33	3.02	2.80	1110.0	2.67	3.43	4.46	130.0	1.91	1.14	1.22
1180.0	1210.0	3.45	3.25	3.14	1210.0	2.14	2.90	3.85	170.0	2.01	1.20	1.21
1280.0	1310.0	3.42	3.22	3.10	1310.0	1.87	2.59	3.47	210.0	2.07	1.23	1.20
1380.0	1410.0	3.27	3.05	2.89	1410.0	1.80	2.53	3.37	250.0	2.14	1.26	1.20
1480.0	1510.0	3.34	3.06	2.84	1510.0	1.86	2.61	3.48	290.0	2.22	1.34	1.25
1580.0	1610.0	3.33	3.03	2.75	1610.0	1.96	2.75	3.66	330.0	2.32	1.37	1.25
1680.0	1710.0	3.08	2.88	2.70	1710.0	2.02	2.86	3.84	370.0	2.43	1.47	1.30
1780.0	1810.0	2.80	2.65	2.52	1810.0	2.07	2.93	3.95	410.0	2.52	1.49	1.32
1880.0	1910.0	2.65	2.54	2.42	1910.0	2.48	3.21	4.18	450.0	2.72	1.62	1.40
1980.0	2010.0	2.79	2.62	2.46	2010.0	3.03	3.59	4.47	490.0	2.77	1.66	1.42
2080.0	2110.0	2.78	2.56	2.38	2110.0	3.49	3.86	4.62	530.0	2.88	1.73	1.46
2180.0	2210.0	2.84	2.56	2.33	2210.0	4.03	4.13	4.70	570.0	3.05	1.81	1.52
2280.0	2310.0	2.96	2.59	2.36	2310.0	4.54	4.38	4.78	610.0	3.15	1.84	1.54
2380.0	2410.0	2.94	2.47	2.20	2410.0	4.87	4.39	4.64	650.0	3.40	1.96	1.64
2460.0	2490.0	2.64	2.17	1.98	2490.0	5.17	4.57	4.67	690.0	3.48	1.98	1.65
2560.0	2590.0	3.19	2.70	2.37	2590.0	5.20	4.41	4.51	730.0	3.61	2.02	1.67
2640.0	2670.0	3.38	2.80	2.44	2670.0	5.51	4.40	4.39	770.0	3.75	2.09	1.73
2740.0	2770.0	3.40	2.95	2.66	2770.0	5.75	4.43	4.39	810.0	3.70	2.05	1.68
2820.0	2850.0	3.42	2.96	2.77	2850.0	5.70	4.11	4.00	850.0	3.79	2.12	1.75
2920.0	2950.0	3.28	2.71	2.44	2950.0	5.20	3.35	3.27	890.0	3.76	2.09	1.70
3000.0	3030.0	3.06	2.52	2.41	3030.0	6.03	3.80	3.48	930.0	3.88	2.17	1.77
3100.0	3130.0	3.28	2.69	2.52	3130.0	7.41	4.34	3.65	970.0	3.90	2.15	1.75
3180.0	3210.0	3.57	2.69	2.50	3210.0	7.70	4.50	3.60	1010.0	3.86	2.14	1.74
3280.0	3310.0	3.65	2.71	2.47	3310.0	7.28	4.29	3.35	1050.0	3.80	2.10	1.72
3360.0	3390.0	3.65	2.69	2.33	3390.0	6.94	4.23	3.20	1090.0	3.58	1.98	1.63
3460.0	3490.0	3.65	2.73	2.35	3490.0	6.35	3.81	3.02	1130.0	3.47	1.97	1.67
3540.0	3570.0	4.08	3.17	2.77	3570.0	5.44	3.40	2.76	1170.0	3.25	1.83	1.58
3640.0	3670.0	4.22	3.22	2.83	3670.0	4.84	3.05	2.50	1210.0	3.18	1.87	1.67
3720.0	3750.0	4.78	3.68	3.25	3750.0	4.28	2.82	2.37	1270.0	2.96	1.86	1.75
3820.0	3850.0	4.89	3.74	3.30	3850.0	4.15	2.84	2.40	1310.0	2.89	1.97	1.90
3900.0	3930.0	4.84	3.76	3.33	3930.0	4.16	2.94	2.53	1370.0	2.67	2.06	2.06
4000.0	4030.0	4.99	3.86	3.35	4030.0	4.80	3.31	2.84	1410.0	2.57	2.17	2.20
4080.0	4110.0	4.98	3.91	3.44	4110.0	5.54	3.67	3.16	1470.0	2.33	2.35	2.48
4180.0	4210.0	5.16	3.67	3.28	4210.0	7.05	4.25	3.30	1510.0	2.21	2.50	2.68
4260.0	4290.0	5.23	3.30	2.87	4290.0	8.08	5.22	3.67	1570.0	2.08	2.82	3.09

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+2	19	5	26	24	54	49	57	52	---
1	-	10	+0	20	31	24	37	44	50	67	63	76
2	74	44	47	47	59	48	44	53	54	70	>77	72
3	>90	49	45	59	64	60	58	70	59	63	>77	>77
4	>90	>77	>77	77	>77	>77	>77	>77	77	>77	75	>77
5	>90	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77
6	>90	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77
7	>90	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77
8	>90	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77
9	>90	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77
10	---	---	>77	>77	>77	>77	>77	>77	>77	>77	>77	>77
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 2600 MHz; -6.00 dBm.
LO IN: 2630 MHz; +13.00 dBm
IF OUT: 30 MHz; -12.73 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	8	32	18	41	36	59	62	68	68	---
1	-	9	+0	24	25	33	50	49	64	81	73	>87
2	54	33	37	38	53	42	37	50	52	74	78	73
3	85	29	25	41	39	39	45	44	58	58	74	>87
4	>90	60	50	50	61	52	60	63	61	61	68	86
5	>90	52	59	50	42	64	45	59	56	74	57	65
6	>90	81	65	79	67	63	66	68	64	80	72	78
7	>90	>87	>87	65	78	65	53	75	56	61	71	68
8	>90	>87	>87	>87	73	>87	80	76	73	71	73	81
9	>90	>87	>87	>87	>87	74	>87	75	62	85	62	73
10	---	---	>87	>87	>87	>87	82	>87	85	87	82	86
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 2600 MHz; 4.00 dBm.
LO IN: 2630 MHz; +13.00 dBm
IF OUT: 30 MHz; -2.68 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.