

Frequency Mixer

SIM-24MH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)			RF (IN) (MHz)	LO (MHz)	IP-3 INPUT (dBm)			RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+9dBm (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+10	+13	+16			+10	+13	+16			+10	+13	+16
7020.0	7050.0	11.26	7.15	6.57	7020.0	7050.0	7.42	12.10	15.54	7020.0	7050.0	0.04	2.01	0.92
7080.0	7110.0	8.25	6.70	6.39	7080.0	7110.0	9.68	13.38	16.26	7080.0	7110.0	2.26	1.81	0.85
7140.0	7170.0	8.54	6.70	6.36	7140.0	7170.0	9.30	13.16	15.85	7140.0	7170.0	2.70	1.56	0.74
7180.0	7210.0	7.70	6.68	6.43	7180.0	7210.0	10.65	14.29	16.80	7180.0	7210.0	2.70	1.56	0.74
7540.0	7570.0	6.78	6.36	6.18	7540.0	7570.0	12.87	15.06	16.98	7540.0	7570.0	2.97	1.35	0.62
7900.0	7930.0	6.88	6.49	6.27	7900.0	7930.0	13.58	14.96	16.26	7900.0	7930.0	2.15	0.94	0.52
8260.0	8290.0	7.85	7.34	6.94	8260.0	8290.0	19.00	20.08	20.55	8260.0	8290.0	1.48	0.95	0.69
8620.0	8650.0	8.38	7.61	7.13	8620.0	8650.0	19.70	21.66	23.15	8620.0	8650.0	0.94	0.64	0.48
8980.0	9010.0	8.58	8.00	7.63	8980.0	9010.0	17.20	17.69	18.67	8980.0	9010.0	0.69	0.59	0.46
9340.0	9370.0	7.67	7.13	6.84	9340.0	9370.0	19.50	19.64	19.55	9340.0	9370.0	0.64	0.48	0.40
9700.0	9730.0	7.08	6.50	6.26	9700.0	9730.0	19.14	19.60	19.85	9700.0	9730.0	0.82	0.56	0.46
10060.0	10090.0	6.96	6.29	6.03	10060.0	10090.0	18.58	18.72	19.41	10060.0	10090.0	0.79	0.56	0.45
10420.0	10450.0	6.78	6.15	5.86	10420.0	10450.0	17.30	17.71	18.55	10420.0	10450.0	0.91	0.58	0.45
10780.0	10810.0	6.52	5.95	5.67	10780.0	10810.0	16.38	16.87	17.51	10780.0	10810.0	0.97	0.61	0.45
11140.0	11170.0	6.52	5.83	5.55	11140.0	11170.0	15.43	16.13	16.58	11140.0	11170.0	1.21	0.59	0.43
11500.0	11530.0	6.61	5.83	5.46	11500.0	11530.0	14.88	15.42	16.37	11500.0	11530.0	1.14	0.57	0.39
11860.0	11890.0	6.31	5.62	5.36	11860.0	11890.0	14.63	15.15	16.22	11860.0	11890.0	1.18	0.67	0.48
12220.0	12250.0	6.42	5.67	5.34	12220.0	12250.0	14.51	14.92	16.34	12220.0	12250.0	1.24	0.68	0.45
12580.0	12610.0	6.40	5.68	5.37	12580.0	12610.0	13.56	14.23	15.76	12580.0	12610.0	1.51	0.80	0.55
12940.0	12970.0	6.67	5.99	5.66	12940.0	12970.0	14.09	14.26	16.38	12940.0	12970.0	0.98	0.52	0.38
13300.0	13330.0	6.46	5.83	5.55	13300.0	13330.0	14.28	14.62	16.10	13300.0	13330.0	1.19	0.59	0.44
13660.0	13690.0	6.75	6.03	5.77	13660.0	13690.0	13.31	14.59	16.19	13660.0	13690.0	1.30	0.52	0.37
14020.0	14050.0	7.37	6.43	6.14	14020.0	14050.0	12.81	15.32	17.11	14020.0	14050.0	1.22	0.50	0.38
14380.0	14410.0	7.57	6.75	6.51	14380.0	14410.0	14.66	17.14	18.04	14380.0	14410.0	1.06	0.45	0.32
14740.0	14770.0	8.08	6.86	6.58	14740.0	14770.0	14.76	17.69	18.12	14740.0	14770.0	0.94	0.49	0.41
15100.0	15130.0	9.05	7.26	6.95	15100.0	15130.0	14.76	17.20	18.07	15100.0	15130.0	0.61	0.55	0.47
15460.0	15490.0	9.52	8.21	7.91	15460.0	15490.0	14.09	16.90	20.46	15460.0	15490.0	0.78	0.52	0.42
15800.0	15830.0	10.23	8.50	8.15	15800.0	15830.0	12.54	19.01	22.55	15800.0	15830.0	0.68	0.57	0.35
16160.0	16190.0	10.25	8.49	8.01	16160.0	16190.0	14.14	21.84	24.29	16160.0	16190.0	0.63	0.54	0.26
16500.0	16530.0	10.34	8.40	7.69	16500.0	16530.0	14.89	26.50	23.01	16500.0	16530.0	0.41	0.28	0.24
16860.0	16890.0	8.76	8.24	7.98	16860.0	16890.0	17.60	23.02	22.62	16860.0	16890.0	1.17	0.43	0.37
17200.0	17230.0	8.31	7.88	7.68	17200.0	17230.0	20.98	23.69	25.73	17200.0	17230.0	0.98	0.39	0.27
17560.0	17590.0	8.64	8.18	7.96	17560.0	17590.0	22.12	23.46	23.01	17560.0	17590.0	0.57	0.24	0.17
17900.0	17930.0	8.41	7.78	7.55	17900.0	17930.0	18.26	23.18	22.06	17900.0	17930.0	0.82	0.26	0.19
18260.0	18290.0	8.37	7.85	7.59	18260.0	18290.0	20.40	24.83	23.61	18260.0	18290.0	0.47	0.20	0.17
18600.0	18630.0	8.97	8.36	8.10	18600.0	18630.0	19.04	25.79	26.98	18600.0	18630.0	0.86	0.24	0.20
18960.0	18990.0	8.49	8.10	7.88	18960.0	18990.0	22.72	23.65	24.02	18960.0	18990.0	0.41	0.21	0.19
19300.0	19330.0	8.98	8.65	8.41	19300.0	19330.0	24.75	26.38	27.32	19300.0	19330.0	0.36	0.23	0.19
19660.0	19690.0	9.88	9.59	9.37	19660.0	19690.0	23.75	24.51	24.18	19660.0	19690.0	0.27	0.19	0.16
20000.0	20030.0	10.42	10.12	9.90	20000.0	20030.0	30.79	30.94	31.05	20000.0	20030.0	0.37	0.16	0.14

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=13649.99MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=7299.9902MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=19999.99MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+13			+13			+13
7150.0	6500.0	13.22	10.0	7310.0	6.65	9310.0	10690.0	17.12
6789.8	6860.2	7.29	250.0	7550.0	6.40	9070.0	10930.0	16.63
6429.6	7220.3	5.95	490.0	7790.0	6.05	8830.0	11170.0	15.95
6069.5	7580.5	6.23	710.0	8010.0	5.75	8590.0	11410.0	14.79
5709.3	7940.7	6.62	950.0	8250.0	5.63	8350.0	11650.0	13.61
5349.1	8300.9	6.55	1170.0	8470.0	5.84	8110.0	11890.0	12.48
4988.9	8661.1	6.79	1410.0	8710.0	6.27	7870.0	12130.0	11.45
4628.8	9021.2	7.45	1630.0	8930.0	6.91	7630.0	12370.0	11.42
4268.6	9381.4	8.13	1870.0	9170.0	7.98	7390.0	12610.0	11.67
3908.4	9741.6	8.26	2090.0	9390.0	8.75	7150.0	12850.0	11.70
3548.2	10101.8	7.52	2330.0	9630.0	9.46	6910.0	13090.0	11.64
3188.0	10461.9	7.38	2550.0	9850.0	10.22	6670.0	13330.0	11.53
2827.9	10822.1	6.98	2790.0	10090.0	10.66	6430.0	13570.0	11.30
2467.7	11182.3	6.63	3010.0	10310.0	10.61	6190.0	13810.0	11.21
2107.5	11542.5	6.39	3250.0	10550.0	11.18	5950.0	14050.0	11.41
1747.3	11902.7	6.11	3470.0	10770.0	10.92	5710.0	14290.0	11.71
1366.0	12284.0	6.18	3710.0	11010.0	10.81	5470.0	14530.0	12.62
1005.8	12644.2	6.13	3930.0	11230.0	10.74	5230.0	14770.0	12.62
624.4	13025.6	6.11	4170.0	11470.0	10.90	4990.0	15010.0	12.45
264.2	13385.7	5.88	4390.0	11690.0	10.56	4750.0	15250.0	12.45
104.1	13754.1	6.02	4630.0	11930.0	10.47	4510.0	15490.0	12.53
423.9	14073.9	5.92	4850.0	12150.0	10.76	4270.0	15730.0	13.09
762.5	14412.5	6.40	5090.0	12390.0	10.41	4030.0	15970.0	13.07
1082.3	14732.3	6.63	5310.0	12610.0	10.19	3790.0	16210.0	13.03
1421.0	15071.0	6.59	5550.0	12850.0	10.03	3550.0	16450.0	13.02
1740.8	15390.8	6.87	5770.0	13070.0	9.40	3310.0	16690.0	12.39
2079.4	15729.4	7.15	6010.0	13310.0	8.91	3070.0	16930.0	12.49
2399.3	16049.2	7.29	6230.0	13530.0	8.52	2830.0	17170.0	12.08
2737.9	16387.9	7.43	6470.0	13770.0	8.46	2590.0	17410.0	11.84
3057.7	16707.7	7.32	6690.0	13990.0	8.56	2350.0	17650.0	11.79
3396.4	17046.3	6.90	6930.0	14230.0	8.62	2110.0	17890.0	11.38
3716.2	17366.2	6.94	7150.0	14450.0	8.61	1870.0	18130.0	11.41
4054.8	17704.8	6.67	7390.0	14690.0	8.87	1630.0	18370.0	11.20
4374.6	18024.6	6.96	7610.0	14910.0	9.29	1390.0	18610.0	11.08
4713.3	18363.3	7.12	7850.0	15150.0	9.62	1150.0	18850.0	10.94
5033.1	18683.1	7.45	8070.0	15370.0	10.38	930.0	19070.0	10.76
5371.7	19021.7	7.53	8310.0	15610.0	10.86	690.0	19310.0	10.45
5691.5	19341.5	7.45	8530.0	15830.0	11.64	470.0	19530.0	10.29
6030.2	19680.2	7.36	8770.0	16070.0	12.29	230.0	19770.0	10.18
6350.0	20000.0	7.89	8990.0	16290.0	13.24	10.0	19990.0	10.03

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)					@LO (dBm)		
	+10	+13	+16	+10	+13	+16			+10	+13	+16
7050.0	39.78	45.43	46.03	22.2	23.94	26.28	7020.0	7050.0	19.06	21.69	22.07
7110.0	43.04	45.42	45.73	20.26	22.56	24.81	7080.0	7110.0	20.33	20.97	21.05
7170.0	42.03	44.81	45.46	22.51	24.7	27.02	7140.0	7170.0	20.03	20.58	20.74
7210.0	42.20	44.12	44.62	21.06	23.53	25.70	7180.0	7210.0	20.56	20.80	20.74
7570.0	37.12	38.31	38.95	23.00	25.05	26.30	7540.0	7570.0	21.21	20.80	20.02
7930.0	34.42	34.98	34.81	25.00	26.20	26.36	7900.0	7930.0	18.73	18.25	17.74
8290.0	37.22	39.49	42.06	25.30	25.84	25.50	8260.0	8290.0	17.51	17.80	18.13
8650.0	38.70	39.37	39.99	26.66	25.43	24.69	8620.0	8650.0	22.18	22.42	22.52
9010.0	54.16	55.30	51.29	27.07	25.34	24.03	8980.0	9010.0	26.07	26.13	25.95
9370.0	46.23	45.96	44.65	26.98	25.04	23.59	9340.0	9370.0	26.69	26.50	26.18
9730.0	48.40	48.30	46.87	25.30	22.88	21.79	9700.0	9730.0	28.21	27.71	27.34
10090.0	59.20	50.53	45.87	23.90	21.67	20.58	10060.0	10090.0	30.09	29.23	28.66
10450.0	53.99	51.67	45.35	23.79	22.27	21.26	10420.0	10450.0	32.28	31.30	30.55
10810.0	44.84	46.78	44.33	24.28	23.46	22.42	10780.0	10810.0	34.68	33.69	32.52
11170.0	37.76	40.71	41.98	25.19	24.16	23.63	11140.0	11170.0	34.62	34.13	33.18
11530.0	33.69	36.26	38.26	25.56	25.12	24.38	11500.0	11530.0	33.70	34.06	33.58
11890.0	31.59	34.22	36.17	23.72	23.22	22.61	11860.0	11890.0	31.32	31.88	31.74
12250.0	30.54	33.29	35.43	20.85	20.51	19.74	12220.0	12250.0	29.16	29.68	29.70
12610.0	29.95	33.07	36.40	19.05	19.13	18.87	12580.0	12610.0	27.72	28.57	28.78
12970.0	29.51	32.60	35.53	20.40	20.87	20.74	12940.0	12970.0	26.84	27.54	27.53
13330.0	29.54	32.53	35.08	21.15	21.63	21.80	13300.0	13330.0	25.57	26.35	26.59
13690.0	31.77	33.92	34.74	22.12	22.80	23.31	13660.0	13690.0	27.13	29.28	30.00
14050.0	36.72	35.32	33.61	25.07	26.80	28.45	14020.0	14050.0	33.29	40.51	40.14
14410.0	39.17	32.62	29.33	28.09	29.12	29.73	14380.0	14410.0	44.72	37.73	32.77
14770.0	33.33	29.57	27.12	30.34	29.45	28.84	14740.0	14770.0	43.57	34.69	30.90
15130.0	27.46	26.70	25.07	27.50	25.85	24.95	15100.0	15130.0	39.19	36.39	29.71
15490.0	23.40	23.56	22.52	21.54	21.37	21.00	15460.0	15490.0	31.29	32.10	27.65
15830.0	20.23	21.75	21.31	22.25	22.05	22.20	15800.0	15830.0	27.01	26.55	25.05
16190.0	22.05	22.79	21.68	19.99	19.93	19.86	16160.0	16190.0	25.02	26.09	27.20
16530.0	27.46	24.54	22.87	22.25	21.37	20.71	16500.0	16530.0	28.33	30.20	33.15
16890.0	25.82	25.18	24.65	23.36	21.37	20.04	16860.0	16890.0	27.33	27.27	27.15
17230.0	23.75	24.50	24.48	24.61	21.56	19.11	17200.0	17230.0	26.64	26.82	27.02
17590.0	23.94	24.85	25.19	29.38	27.11	25.06	17560.0	17590.0	25.02	24.99	24.75
17930.0	23.80	24.45	25.43	31.34	29.07	27.19	17900.0	17930.0	26.16	26.28	26.57
18290.0	23.95	25.01	25.95	33.54	32.26	30.49	18260.0	18290.0	20.51	20.50	20.84
18630.0	24.32	24.76	25.20	40.21	39.87	38.44	18600.0	18630.0	22.37	22.41	23.53
18990.0	25.28	26.31	26.97	32.18	31.49	30.21	18960.0	18990.0	19.35	19.32	20.21
19330.0	27.73	30.11	31.56	32.59	31.76	30.37	19300.0	19330.0	18.23	18.36	18.68
19690.0	32.77	36.85	37.84	33.33	32.90	31.94	19660.0	19690.0	18.22	18.41	18.47
20030.0	31.50	30.84	29.44	39.69	39.35	38.90	20000.0	20030.0	18.46	18.68	19.23

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=20029.99MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+10	+13	+16		+10	+13	+16		+10	+13	+16
7020.0	7050.0	5.66	3.65	3.21	7050.0	12.35	8.16	8.31	10.0	1.42	1.24	1.08
7080.0	7110.0	4.25	3.34	3.05	7110.0	9.04	7.44	8.05	230.0	1.48	1.30	1.15
7140.0	7170.0	4.38	3.43	3.09	7170.0	8.51	7.00	7.56	450.0	1.65	1.45	1.28
7180.0	7210.0	3.86	3.26	3.00	7210.0	7.14	6.73	7.56	670.0	1.87	1.66	1.48
7540.0	7570.0	3.47	3.11	2.94	7570.0	4.28	4.96	5.93	890.0	2.04	1.81	1.62
7900.0	7930.0	3.41	3.06	2.87	7930.0	3.18	4.00	4.86	1110.0	2.20	1.95	1.73
8260.0	8290.0	3.62	3.45	3.30	8290.0	2.54	3.31	4.13	1330.0	2.36	2.09	1.85
8620.0	8650.0	4.56	4.28	3.94	8650.0	2.38	3.03	3.74	1550.0	2.45	2.16	1.91
8980.0	9010.0	5.83	5.36	5.20	9010.0	2.31	2.74	3.25	1770.0	2.46	2.16	1.90
9340.0	9370.0	4.82	4.39	4.07	9370.0	2.17	2.39	2.72	1990.0	2.46	2.15	1.88
9700.0	9730.0	4.22	3.78	3.42	9730.0	2.13	2.27	2.56	2210.0	2.54	2.21	1.94
10060.0	10090.0	4.99	4.30	3.99	10090.0	2.22	2.36	2.69	2430.0	2.59	2.26	1.99
10420.0	10450.0	4.36	3.68	3.34	10450.0	2.42	2.48	2.74	2650.0	2.65	2.31	2.04
10780.0	10810.0	2.74	2.44	2.01	10810.0	2.57	2.55	2.75	2870.0	2.76	2.40	2.12
11140.0	11170.0	3.27	2.71	2.46	11170.0	2.83	2.65	2.82	3090.0	2.92	2.54	2.24
11500.0	11530.0	3.10	2.57	2.29	11530.0	3.19	2.84	2.91	3310.0	3.02	2.62	2.32
11860.0	11890.0	2.13	1.79	1.55	11890.0	3.42	2.94	2.92	3530.0	3.12	2.71	2.39
12220.0	12250.0	2.13	1.79	1.57	12250.0	3.40	2.80	2.67	3750.0	3.29	2.84	2.52
12580.0	12610.0	1.93	1.62	1.41	12610.0	3.33	2.64	2.47	3970.0	3.45	2.98	2.66
12940.0	12970.0	1.52	1.39	1.36	12970.0	3.38	2.66	2.50	4190.0	3.58	3.11	2.78
13300.0	13330.0	1.99	1.80	1.87	13330.0	3.58	2.71	2.48	4410.0	3.60	3.15	2.83
13660.0	13690.0	1.74	1.52	1.39	13690.0	3.70	2.71	2.43	4630.0	3.56	3.15	2.85
14020.0	14050.0	1.57	1.62	1.65	14050.0	4.45	2.95	2.47	4830.0	3.56	3.16	2.89
14380.0	14410.0	2.39	2.39	2.86	14410.0	5.13	3.30	2.67	5050.0	3.42	3.05	2.84
14740.0	14770.0	2.97	2.64	2.58	14770.0	5.74	3.45	2.60	5250.0	3.19	2.86	2.72
15100.0	15130.0	2.70	2.45	2.22	15130.0	5.14	3.27	2.39	5470.0	3.03	2.76	2.67
15460.0	15490.0	3.30	3.12	3.45	15490.0	3.76	2.65	1.99	5670.0	3.00	2.77	2.74
15800.0	15830.0	4.89	4.12	3.69	15830.0	3.62	2.63	1.97	5890.0	2.85	2.68	2.68
16160.0	16190.0	2.42	2.07	1.90	16190.0	3.20	2.31	1.70	6090.0	2.69	2.56	2.55
16500.0	16530.0	3.13	3.20	3.26	16530.0	2.82	2.16	1.58	6310.0	2.63	2.50	2.47
16860.0	16890.0	5.14	5.00	5.63	16890.0	1.95	1.55	1.36	6510.0	2.51	2.37	2.31
17200.0	17230.0	3.49	3.29	2.84	17230.0	1.98	1.58	1.45	6730.0	2.48	2.34	2.29
17560.0	17590.0	3.00	3.00	2.59	17590.0	2.05	1.71	1.72	6930.0	2.69	2.55	2.47
17900.0	17930.0	4.24	3.94	4.26	17930.0	2.87	2.20	2.03	7150.0	2.72	2.55	2.44
18260.0	18290.0	3.86	3.54	3.23	18290.0	2.89	2.16	1.91	7350.0	2.55	2.40	2.34
18600.0	18630.0	2.75	2.52	2.35	18630.0	3.25	2.18	1.71	7570.0	2.30	2.23	2.24
18960.0	18990.0	3.47	3.37	2.95	18990.0	2.28	1.60	1.24	7770.0	2.15	2.18	2.32
19300.0	19330.0	3.00	2.83	2.84	19330.0	1.76	1.25	1.08	7990.0	2.18	2.32	2.54
19660.0	19690.0	2.90	2.89	2.75	19690.0	1.14	1.20	1.54	8190.0	2.53	2.76	3.06
20000.0	20030.0	5.17	4.68	6.13	20030.0	1.43	1.56	1.87	8410.0	3.16	3.49	3.86