

Frequency Mixer

ZMDB-653H-E+

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=+10dBm (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+14	+15	+16			+14	+15	+16			+14	+15	+16
20000.1	20030.1	9.70	9.50	9.47	20000.0	20030.0	15.66	16.10	16.61	25000.1	25030.1	0.70	0.68	0.69
21000.1	21030.1	9.77	9.76	9.67	21000.0	21030.0	22.17	22.36	22.52	26000.1	26030.1	0.79	0.77	0.74
22000.1	22030.1	10.74	10.73	10.87	22000.0	22030.0	23.50	23.32	23.43	27000.1	27030.1	0.08	0.27	0.20
23000.1	23030.1	11.35	11.22	11.20	23000.0	23030.0	22.73	23.24	24.00	28000.1	28030.1	0.20	0.16	0.04
24000.1	24030.1	11.01	11.09	11.47	24000.0	24030.0	24.68	25.34	26.07	29000.1	29030.1	0.24	0.19	0.14
25000.1	25030.1	11.10	11.29	11.54	25000.0	25030.0	24.49	24.96	25.04	30000.1	30030.1	0.31	0.20	0.09
26000.1	26030.1	11.04	11.07	11.40	26000.0	26030.0	25.01	25.08	25.03	31000.1	31030.1	0.32	0.32	0.16
27000.1	27030.1	11.08	11.37	11.88	27000.0	27030.0	25.01	25.17	25.64	32000.1	32030.1	0.30	0.32	0.21
28000.1	28030.1	10.62	10.97	11.65	28000.0	28030.0	24.53	24.51	24.46	33000.1	33030.1	0.42	0.30	0.31
29000.1	29030.1	9.79	10.14	10.70	29000.0	29030.0	24.58	25.47	26.15	34000.1	34030.1	0.33	0.27	0.14
30000.1	30030.1	9.92	10.21	10.75	30000.0	30030.0	23.93	24.80	25.73	35000.1	35030.1	0.17	0.20	0.15
31000.1	31030.1	9.85	10.08	10.66	31000.0	31030.0	23.31	24.02	24.88	36000.1	36030.1	0.23	0.37	0.17
32000.1	32030.1	10.00	10.44	11.19	32000.0	32030.0	22.18	22.27	22.99	37000.1	37030.1	0.38	0.39	0.15
33000.1	33030.1	9.28	9.39	9.90	33000.0	33030.0	21.03	21.40	22.12	38000.1	38030.1	0.32	0.36	0.24
34000.1	34030.1	9.05	9.32	9.95	34000.0	34030.0	21.16	21.27	21.32	40000.1	40030.1	0.31	0.48	0.36
35000.1	35030.1	9.46	9.35	9.56	35000.0	35030.0	23.29	22.72	22.38	42000.1	42030.1	0.26	0.35	0.28
36000.1	36030.1	8.94	8.92	9.22	36000.0	36030.0	21.16	20.91	21.11	44000.1	44030.1	0.21	0.38	0.29
37000.1	37030.1	8.71	8.80	9.15	37000.0	37030.0	21.23	21.43	21.35	46000.1	46030.1	0.33	0.42	0.27
38000.1	38030.1	9.29	9.07	9.25	38000.0	38030.0	22.83	22.26	21.77	48000.1	48030.1	0.31	0.40	0.32
40000.1	40030.1	9.42	9.37	9.64	40000.0	40030.0	21.94	22.14	21.31	50000.1	50030.1	0.56	0.43	0.27
42000.1	42030.1	9.73	9.60	9.79	42000.0	42030.0	23.98	23.70	22.45	51000.1	51030.1	0.19	0.49	0.33
44000.1	44030.1	10.16	10.27	10.64	44000.0	44030.0	22.84	22.04	22.15	52000.1	52030.1	0.26	0.61	0.36
46000.1	46030.1	10.47	10.60	11.17	46000.0	46030.0	22.11	21.66	21.79	53000.1	53030.1	0.45	0.60	0.46
48000.1	48030.1	11.13	11.02	11.10	48000.0	48030.0	22.66	22.06	22.08	54000.1	54030.1	0.36	0.44	0.40
50000.1	50030.1	11.72	11.22	11.14	50000.0	50030.0	22.66	23.16	22.26	55000.1	55030.1	0.22	0.46	0.31
51000.1	51030.1	12.43	11.11	10.68	51000.0	51030.0	20.00	20.95	21.26	56000.1	56030.1	0.28	0.33	0.26
52000.1	52030.1	11.74	10.32	9.93	52000.0	52030.0	18.98	20.68	21.52	57000.1	57030.1	0.30	0.38	0.22
53000.1	53030.1	9.08	9.10	9.45	53000.0	53030.0	20.15	20.17	19.85	58000.1	58030.1	0.28	0.35	0.22
54000.1	54030.1	9.17	9.06	9.25	54000.0	54030.0	21.02	21.15	20.94	59000.1	59030.1	0.42	0.43	0.26
55000.1	55030.1	9.52	9.39	9.49	55000.0	55030.0	21.56	21.80	21.19	60000.1	60030.1	0.57	0.54	0.55
56000.1	56030.1	10.19	10.13	10.40	56000.0	56030.0	22.17	21.84	21.81	61000.1	61030.1	0.49	0.56	0.34
57000.1	57030.1	10.80	10.83	11.26	57000.0	57030.0	21.94	21.49	21.92	62000.1	62030.1	0.27	0.35	0.21
58000.1	58030.1	10.64	10.72	11.25	58000.0	58030.0	21.67	21.24	20.92	63000.1	63030.1	0.20	0.23	0.27
59000.1	59030.1	10.49	10.71	11.21	59000.0	59030.0	20.74	20.85	21.22	64000.1	64030.1	0.21	0.26	0.28
60000.1	60030.1	10.29	10.10	10.18	60000.0	60030.0	20.53	20.40	20.26	65000.1	65030.1	0.00	0.00	0.00
61000.1	61030.1	10.27	10.43	11.07	61000.0	61030.0	20.42	20.09	20.17					
62000.1	62030.1	10.55	10.42	10.59	62000.0	62030.0	22.47	22.17	21.90					
63000.1	63030.1	11.39	11.33	11.63	63000.0	63030.0	23.28	22.74	22.74					
64000.1	64030.1	12.53	12.52	12.80	64000.0	64030.0	22.57	22.04	22.18					
65000.1	65030.1	13.18	13.14	13.47	65000.0	65030.0	23.56	23.46	22.87					

Frequency Mixer

ZMDB-653H-E+

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=20000.1MHz (dB)			IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=42500.1MHz (dB)			IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=65000.1MHz (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+14	+15	+16			+14	+15	+16			+14	+15	+16
10.0	20010.1	9.92	9.54	9.38	10.0	42510.1	9.88	9.97	9.71	30000.0	35000.1	25.92	25.98	26.25
20.0	20020.1	9.73	9.51	9.44	20.0	42520.1	9.86	9.74	9.96	29000.0	36000.1	24.17	24.26	24.61
30.0	20030.1	9.68	9.49	9.44	30.0	42530.1	9.91	9.77	9.94	28000.0	37000.1	22.78	22.90	23.21
40.0	20040.1	9.68	9.51	9.38	40.0	42540.1	9.95	9.81	9.92	27000.0	38000.1	21.09	21.05	21.39
50.0	20050.1	9.74	9.52	9.45	50.0	42550.1	9.90	9.78	9.97	26000.0	39000.1	19.12	19.25	19.74
60.0	20060.1	9.74	9.59	9.49	60.0	42560.1	9.88	9.80	9.97	25000.0	40000.1	17.88	17.91	18.33
70.0	20070.1	9.75	9.57	9.43	70.0	42570.1	9.93	9.78	9.96	23000.0	42000.1	21.25	20.40	19.92
80.0	20080.1	9.72	9.55	9.41	80.0	42580.1	9.90	9.80	9.95	21000.0	44000.1	19.67	19.28	19.30
90.0	20090.1	9.68	9.50	9.36	90.0	42590.1	9.90	9.79	9.95	19000.0	46000.1	17.48	17.18	17.34
100.0	20100.1	9.68	9.48	9.38	100.0	42600.1	9.89	9.78	9.95	17000.0	48000.1	17.17	16.75	16.60
200.0	20200.1	9.67	9.48	9.34	200.0	42700.1	9.90	9.84	10.05	15000.0	50000.1	17.48	16.55	16.07
300.0	20300.1	9.59	9.41	9.28	300.0	42800.1	9.88	9.87	10.13	13000.0	52000.1	19.97	17.21	16.30
400.0	20400.1	9.41	9.27	9.20	400.0	42900.1	9.89	9.92	10.28	11000.0	54000.1	15.30	15.07	15.33
500.0	20500.1	9.36	9.26	9.21	500.0	43000.1	9.91	9.99	10.42	9000.0	56000.1	14.44	14.41	14.76
600.0	20600.1	9.30	9.25	9.22	600.0	43100.1	9.92	10.08	10.55	7000.0	58000.1	14.47	14.48	15.05
700.0	20700.1	9.27	9.24	9.24	700.0	43200.1	9.94	10.15	10.70	5000.0	60000.1	14.63	14.19	14.09
800.0	20800.1	9.24	9.23	9.25	800.0	43300.1	9.96	10.23	10.80	3000.0	62000.1	14.00	13.79	13.81
900.0	20900.1	9.19	9.19	9.24	900.0	43400.1	9.98	10.27	10.87	1000.0	64000.1	13.33	13.25	13.50
1000.0	21000.1	9.10	9.16	9.23	1000.0	43500.1	9.95	10.28	10.88	900.0	64100.1	13.34	13.22	13.46
1100.0	21100.1	9.16	9.23	9.31	1100.0	43600.1	9.98	10.28	10.85	800.0	64200.1	13.33	13.21	13.43
1200.0	21200.1	9.16	9.25	9.41	1200.0	43700.1	9.95	10.21	10.78	700.0	64300.1	13.32	13.18	13.39
2000.0	22000.1	9.42	9.69	10.02	1500.0	44000.1	9.97	10.07	10.48	600.0	64400.1	13.29	13.17	13.38
3000.0	23000.1	9.45	9.54	9.65	2500.0	45000.1	10.09	10.11	10.43	500.0	64500.1	13.28	13.13	13.32
4000.0	24000.1	9.92	10.18	10.54	3500.0	46000.1	10.09	10.21	10.64	400.0	64600.1	13.25	13.13	13.36
5000.0	25000.1	10.29	10.58	10.96	4500.0	47000.1	10.71	10.37	10.28	300.0	64700.1	13.24	13.12	13.33
6000.0	26000.1	10.51	10.74	11.06	5500.0	48000.1	10.66	10.50	10.48	200.0	64800.1	13.23	13.14	13.37
7000.0	27000.1	11.01	11.35	11.71	6500.0	49000.1	12.55	11.30	10.84	100.0	64900.1	13.19	13.10	13.39
8000.0	28000.1	11.18	11.44	11.78	7500.0	50000.1	11.29	10.71	10.52	90.0	64910.1	13.18	13.14	13.39
9000.0	29000.1	11.29	11.54	11.85	8500.0	51000.1	12.87	11.32	10.69	80.0	64920.1	13.19	13.11	13.39
10000.0	30000.1	11.60	11.79	12.11	9500.0	52000.1	13.95	11.72	10.98	70.0	64930.1	13.21	13.09	13.40
11000.0	31000.1	12.14	12.38	12.74	10500.0	53000.1	11.06	10.99	11.25	60.0	64940.1	13.16	13.13	13.40
12000.0	32000.1	12.81	13.16	13.59	11500.0	54000.1	11.39	11.20	11.43	50.0	64950.1	13.19	13.13	13.41
13000.0	33000.1	12.23	12.42	12.74	12500.0	55000.1	11.57	11.43	11.55	45.0	64955.1	13.21	13.07	13.43
14000.0	34000.1	12.41	12.73	13.18	13500.0	56000.1	11.47	11.51	11.87	40.0	64960.1	13.19	13.16	13.45
15000.0	35000.1	12.51	12.75	13.05	14500.0	57000.1	11.54	11.81	12.48	35.0	64965.1	13.25	13.05	13.37
16000.0	36000.1	13.36	13.53	13.89	15500.0	58000.1	11.78	11.93	12.71	30.0	64970.1	13.15	13.15	13.36
17000.0	37000.1	13.92	14.14	14.47	16500.0	59000.1	12.48	12.92	13.51	25.0	64975.1	13.11	13.09	13.33
18000.0	38000.1	14.39	14.48	14.66	17500.0	60000.1	13.31	12.94	12.88	20.0	64980.1	13.21	13.05	13.45
19000.0	39000.1	14.31	14.46	14.77	18500.0	61000.1	13.01	13.10	13.84	15.0	64985.1	13.09	12.97	13.46
20000.0	40000.1	14.81	14.96	15.19	19500.0	62000.1	14.08	13.84	13.83	10.0	64990.1	13.36	12.72	13.93



Frequency Mixer

ZMDB-653H-E+

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)		
	+14	+15	+16	+14	+15	+16			+14	+15	+16
20030.1	33.21	34.63	35.74	33.18	33.32	33.96	20000.1	20030.1	30.47	31.36	32.53
21030.1	36.41	37.79	38.81	34.75	35.30	36.56	21000.1	21030.1	37.49	38.00	37.56
22030.1	39.06	39.52	39.76	38.48	40.67	43.72	22000.1	22030.1	41.38	41.41	41.09
23030.1	40.68	41.98	43.32	39.68	40.48	41.42	23000.1	23030.1	40.76	41.25	41.84
24030.1	42.18	43.09	43.72	41.99	43.79	46.67	24000.1	24030.1	40.95	39.77	37.92
25030.1	44.17	44.82	45.05	42.28	44.36	47.08	25000.1	25030.1	43.14	42.39	40.34
26030.1	44.84	45.93	46.72	39.21	41.17	43.31	26000.1	26030.1	41.22	41.43	41.63
27030.1	45.18	46.32	47.08	38.18	39.85	41.20	27000.1	27030.1	38.35	38.83	39.74
28030.1	43.46	44.88	46.47	38.76	40.18	41.20	28000.1	28030.1	36.50	37.18	38.19
29030.1	43.85	44.97	45.80	40.92	42.56	43.96	29000.1	29030.1	34.04	34.25	34.68
30030.1	44.52	45.72	46.76	41.78	43.16	44.44	30000.1	30030.1	32.50	32.53	32.89
31030.1	46.15	47.37	47.93	43.28	44.30	45.20	31000.1	31030.1	31.44	31.34	31.58
32030.1	43.81	43.78	43.81	44.16	45.08	46.12	32000.1	32030.1	30.56	30.43	30.55
33030.1	42.81	43.01	42.94	44.11	44.68	45.20	33000.1	33030.1	29.31	29.29	29.29
34030.1	39.98	40.74	41.44	42.43	42.88	43.30	34000.1	34030.1	28.55	28.47	28.55
35030.1	36.67	36.63	36.77	41.87	42.26	42.59	35000.1	35030.1	26.65	26.69	26.73
36030.1	34.55	35.57	36.52	40.09	40.41	40.70	36000.1	36030.1	25.09	25.24	25.29
37030.1	33.92	34.25	34.41	38.73	39.11	39.38	37000.1	37030.1	24.25	24.37	24.45
38030.1	34.36	35.58	36.83	37.64	37.96	38.19	38000.1	38030.1	22.91	23.04	23.16
40030.1	35.58	36.79	37.68	34.66	35.05	35.29	40000.1	40030.1	21.99	22.03	22.11
42030.1	38.18	38.91	39.47	31.42	31.76	32.05	42000.1	42030.1	20.64	20.60	20.68
44030.1	36.09	36.30	36.54	29.22	29.55	29.76	44000.1	44030.1	20.62	20.68	20.60
46030.1	36.09	36.38	36.68	24.99	25.35	25.64	46000.1	46030.1	18.78	18.72	18.74
48030.1	38.28	38.57	38.75	21.62	22.01	22.34	48000.1	48030.1	16.93	16.94	16.94
50030.1	48.46	50.15	52.04	25.10	25.42	25.74	50000.1	50030.1	20.83	20.87	20.90
51030.1	54.55	57.50	61.76	27.86	28.13	28.36	51000.1	51030.1	23.23	23.30	23.35
52030.1	62.18	70.32	63.08	29.50	29.66	29.82	52000.1	52030.1	24.36	24.43	24.50
53030.1	48.84	47.89	46.73	26.14	26.49	26.54	53000.1	53030.1	24.71	24.60	24.54
54030.1	50.27	48.91	48.32	26.63	26.48	26.58	54000.1	54030.1	25.36	25.19	25.02
55030.1	46.12	44.89	44.85	26.12	25.95	26.22	55000.1	55030.1	26.07	25.84	25.64
56030.1	41.84	41.43	41.09	24.98	25.32	25.35	56000.1	56030.1	27.07	26.91	26.78
57030.1	42.11	41.44	41.27	25.39	25.40	25.39	57000.1	57030.1	27.93	27.73	27.76
58030.1	42.00	41.51	41.06	26.93	26.91	26.68	58000.1	58030.1	27.88	27.52	27.71
59030.1	40.72	40.52	40.55	27.34	27.36	27.32	59000.1	59030.1	27.25	27.17	27.26
60030.1	43.45	42.59	41.74	30.97	30.41	29.87	60000.1	60030.1	27.40	27.31	27.31
61030.1	40.38	40.14	39.72	29.87	29.75	29.32	61000.1	61030.1	27.62	27.55	27.62
62030.1	41.75	41.55	41.39	31.70	31.19	30.84	62000.1	62030.1	27.78	27.82	27.81
63030.1	41.30	41.24	40.75	30.67	30.22	29.44	63000.1	63030.1	28.15	28.11	28.17
64030.1	40.59	40.31	40.15	28.78	28.07	27.59	64000.1	64030.1	28.66	28.59	28.73
65030.1	40.66	40.41	40.21	27.8	27.2	26.7	65000.1	65030.1	30.6	30.6	30.8

Frequency Mixer

ZMDB-653H-E+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=65030.1MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+14	+15	+16		+14	+15	+16		+14	+15	+16
20000.1	20030.1	3.08	3.25	3.37	20000.0	4.37	3.91	3.72	10	1.20	1.16	1.31
21000.1	21030.1	3.88	3.94	3.98	21000.0	3.90	3.65	3.54	50	1.17	1.23	1.23
22000.1	22030.1	4.58	4.48	4.36	22000.0	3.12	3.01	3.00	100	1.17	1.22	1.23
23000.1	23030.1	4.95	4.89	4.85	23000.0	2.45	2.46	2.50	200	1.17	1.22	1.22
24000.1	24030.1	4.97	4.88	4.79	24000.0	2.02	2.06	2.11	300	1.16	1.22	1.22
25000.1	25030.1	4.83	4.75	4.66	25000.0	1.62	1.70	1.78	400	1.16	1.21	1.21
26000.1	26030.1	4.36	4.30	4.24	26000.0	1.44	1.55	1.62	500	1.16	1.21	1.21
27000.1	27030.1	3.85	3.79	3.73	27000.0	1.34	1.43	1.48	600	1.15	1.20	1.21
28000.1	28030.1	3.36	3.33	3.29	28000.0	1.37	1.41	1.42	700	1.15	1.20	1.20
29000.1	29030.1	3.21	3.15	3.10	29000.0	1.44	1.44	1.43	800	1.15	1.20	1.20
30000.1	30030.1	3.30	3.25	3.21	30000.0	1.44	1.42	1.40	900	1.14	1.19	1.19
31000.1	31030.1	3.40	3.36	3.33	31000.0	1.53	1.48	1.46	1000	1.14	1.19	1.19
32000.1	32030.1	3.14	3.12	3.14	32000.0	1.81	1.67	1.61	1100	1.14	1.18	1.19
33000.1	33030.1	2.80	2.74	2.71	33000.0	1.92	1.82	1.77	1200	1.13	1.18	1.18
34000.1	34030.1	2.41	2.40	2.42	34000.0	2.29	2.15	2.07	1300	1.14	1.18	1.19
35000.1	35030.1	2.34	2.28	2.24	35000.0	2.99	2.71	2.52	1400	1.14	1.18	1.18
36000.1	36030.1	2.02	1.96	1.93	36000.0	3.15	2.85	2.67	1500	1.14	1.18	1.18
37000.1	37030.1	1.93	1.88	1.86	37000.0	3.39	3.01	2.75	1600	1.14	1.18	1.19
38000.1	38030.1	2.13	2.05	1.99	38000.0	3.41	2.98	2.70	1700	1.15	1.18	1.19
40000.1	40030.1	2.46	2.40	2.36	39000.0	3.01	2.71	2.52	1800	1.16	1.19	1.19
42000.1	42030.1	2.80	2.72	2.67	40000.0	3.39	2.94	2.66	1900	1.16	1.19	1.20
44000.1	44030.1	2.73	2.68	2.64	41000.0	3.61	3.10	2.78	2000	1.18	1.20	1.21
46000.1	46030.1	3.31	3.25	3.21	42000.0	3.43	3.00	2.72	3000	1.34	1.34	1.34
48000.1	48030.1	4.07	3.96	3.88	43000.0	3.24	2.79	2.51	4000	1.46	1.45	1.45
50000.1	50030.1	4.08	3.93	3.78	44000.0	2.58	2.26	2.08	5000	1.55	1.53	1.54
51000.1	51030.1	3.33	3.15	3.05	45000.0	2.16	1.94	1.83	6000	1.58	1.55	1.55
52000.1	52030.1	2.38	2.30	2.24					7000	1.63	1.60	1.60
53000.1	53030.1	1.50	1.50	1.51					8000	1.70	1.66	1.67
54000.1	54030.1	1.08	1.11	1.13					9000	1.89	1.84	1.84
55000.1	55030.1	1.69	1.66	1.64					10000	2.20	2.13	2.12
56000.1	56030.1	2.41	2.36	2.33					11000	2.56	2.47	2.45
57000.1	57030.1	2.51	2.46	2.41					12000	2.86	2.75	2.72
58000.1	58030.1	2.44	2.39	2.36					13000	2.92	2.81	2.78
59000.1	59030.1	2.03	2.01	2.00					14000	2.79	2.68	2.66
60000.1	60030.1	1.81	1.76	1.71					15000	2.76	2.64	2.61
61000.1	61030.1	1.75	1.72	1.70					16000	2.91	2.77	2.73
62000.1	62030.1	2.44	2.41	2.38					17000	3.50	3.33	3.27
63000.1	63030.1	3.13	3.07	2.99					18000	4.13	3.93	3.86
64000.1	64030.1	3.97	3.87	3.79					19000	5.37	5.12	4.99
65000.1	65030.1	4.14	4.02	3.92					20000	5.91	5.69	5.59