

Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	Image Rejection (UP Conv. Mode) IF FIXED @IF(OUT)=200MHz			RF (IN) (MHz)	LO (MHz)	Image Rejection (UP Conv. Mode) IF FIXED @IF(OUT)=200MHz			RF (IN) (MHz)	LO (MHz)	Image Rejection (UP Conv. Mode) IF FIXED @IF(OUT)=3000MHz		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
18400.0	18200.0	13.84	13.78	13.88	18000.0	16000.0				18000.0	15000.0			
19000.0	18800.0	16.72	17.25	17.73	19000.0	17000.0				19000.0	16000.0			
20000.0	19800.0	23.51	23.47	22.94	20000.0	18000.0				20000.0	17000.0			
21000.0	20800.0	23.70	23.18	22.62	21000.0	19000.0				21000.0	18000.0			
22000.0	21800.0	25.15	24.51	23.78	22000.0	20000.0	29.64	28.35	27.47	22000.0	19000.0			
23000.0	22800.0	26.57	25.48	24.38	23000.0	21000.0	24.86	24.66	24.59	23000.0	20000.0			
24000.0	23800.0	26.28	25.19	24.21	24000.0	22000.0	31.29	34.01	36.69	24000.0	21000.0	20.57	21.19	22.21
25000.0	24800.0	23.41	22.99	22.59	25000.0	23000.0	31.77	34.32	37.20	25000.0	22000.0	24.13	25.17	26.59
26000.0	25800.0	24.40	23.67	22.86	26000.0	24000.0	30.74	31.20	31.12	26000.0	23000.0	25.29	26.38	27.79
27000.0	26800.0	26.11	25.90	25.96	27000.0	25000.0	29.26	29.18	28.75	27000.0	24000.0	27.17	28.00	28.58
28000.0	27800.0	28.17	28.13	28.27	28000.0	26000.0	29.78	29.60	29.06	28000.0	25000.0	26.50	26.82	27.02
29000.0	28800.0	33.02	33.95	34.53	29000.0	27000.0	30.66	32.27	33.46	29000.0	26000.0	27.08	27.16	27.15
30000.0	29800.0	31.37	34.57	37.42	30000.0	28000.0	28.03	28.63	29.63	30000.0	27000.0	26.38	27.27	27.96
31000.0	30800.0	26.35	28.01	29.79	31000.0	29000.0	25.97	25.84	25.96	31000.0	28000.0	24.28	24.59	24.85
32000.0	31800.0	28.22	30.81	32.40	32000.0	30000.0	24.92	24.74	24.56	32000.0	29000.0	22.87	22.82	22.85
33000.0	32800.0	30.74	35.51	34.23	33000.0	31000.0	24.02	23.75	23.45	33000.0	30000.0	21.09	20.97	20.85
34000.0	33800.0	26.90	27.01	26.46	34000.0	32000.0	26.07	24.21	22.44	34000.0	31000.0	19.85	19.73	19.58
35200.0	35000.0	29.35	26.68	25.55	35000.0	33000.0	24.49	23.23	22.34	35000.0	32000.0	21.23	20.12	19.01
36000.0	35800.0	38.68	31.89	28.70	36000.0	34000.0	34.83	29.63	26.19	36000.0	33000.0	23.76	22.93	21.92
37000.0	36800.0	37.33	33.17	29.75	37000.0	35000.0	34.60	29.37	26.85	37000.0	34000.0	26.06	23.64	21.78
38000.0	37800.0	32.55	30.99	28.80	38000.0	36000.0	26.37	25.43	23.87	38000.0	35000.0	25.65	23.71	22.67
39000.0	38800.0	30.04	29.71	28.45	39000.0	37000.0	25.34	24.96	24.25	39000.0	36000.0	24.69	22.48	20.67
40000.0	39800.0	22.32	22.55	22.96	40000.0	38000.0	21.54	21.56	21.47	40000.0	37000.0	23.67	22.86	21.85
41000.0	40800.0	20.10	20.42	20.63	41000.0	39000.0	19.80	19.52	18.89	41000.0	38000.0	20.68	19.80	18.91
42000.0	41800.0	20.02	20.46	20.73	42000.0	40000.0	20.91	20.64	20.35	42000.0	39000.0	21.24	20.35	19.36
43000.0	42800.0	19.50	19.82	20.12	43000.0	41000.0	21.71	21.66	21.44	43000.0	40000.0	22.70	22.00	21.68
44000.0	43800.0	19.70	19.81	20.05	44000.0	42000.0	22.97	22.97	22.90	44000.0	41000.0	23.65	23.13	22.47
45000.0	44800.0	24.63	24.75	24.71	45000.0	43000.0	24.24	24.48	24.71	45000.0	42000.0	25.12	24.95	24.84
46000.0	45800.0	23.89	24.20	24.28	46000.0	44000.0	24.82	25.14	25.22	46000.0	43000.0	24.66	24.93	24.85
47000.0	46800.0	23.86	24.16	24.57	47000.0	45000.0	22.65	23.05	23.38	47000.0	44000.0	24.76	24.90	24.90
48000.0	47800.0	24.57	25.01	25.57	48000.0	46000.0	20.37	20.69	21.06	48000.0	45000.0	23.35	23.94	24.01
49000.0	48800.0	27.24	26.21	26.33	49000.0	47000.0	20.46	21.07	21.62	49000.0	46000.0	22.18	22.66	23.05
50000.0	49800.0	30.57	33.56	32.74	50000.0	48000.0	21.82	22.23	22.58	50000.0	47000.0	21.90	22.78	23.60
51000.0	50800.0	35.23	32.27	30.50	51000.0	49000.0	24.97	23.85	23.83	51000.0	48000.0	23.48	24.24	24.96
52000.0	51800.0	31.44	29.20	27.70	52000.0	50000.0	30.44	27.54	25.32	52000.0	49000.0	24.32	24.51	24.76
53000.0	52800.0	30.54	30.36	29.79	53000.0	51000.0	24.93	24.09	23.47	53000.0	50000.0	24.43	25.00	24.92
54000.0	53800.0	37.24	36.30	33.49	54000.0	52000.0	23.23	22.49	22.05	54000.0	51000.0	24.46	24.12	23.83
55000.0	54800.0	35.34	32.13	30.40	55000.0	53000.0	29.59	25.86	24.91	55000.0	52000.0	25.44	25.14	24.84
56000.0	55800.0	39.31	34.57	32.32	56000.0	54000.0	26.33	24.94	24.22	56000.0	53000.0	29.21	29.53	28.63
57000.0	56800.0	44.45	38.44	34.20	57000.0	55000.0	27.61	26.61	25.56	57000.0	54000.0	26.96	26.77	26.30
58000.0	57800.0	40.64	34.32	31.64	58000.0	56000.0	28.42	27.08	26.64	58000.0	55000.0	26.97	26.90	26.90
59000.0	58800.0	42.50	42.50	37.55	59000.0	57000.0	31.60	30.43	29.45	59000.0	56000.0	24.71	25.05	25.78
60000.0	59800.0	30.25	35.49	36.89	60000.0	58000.0	31.18	29.83	27.89	60000.0	57000.0	25.44	26.23	27.00
61000.0	60800.0	34.01	31.59	31.23	61000.0	59000.0	34.99	32.56	31.31	61000.0	58000.0	30.08	31.36	31.85
62000.0	61800.0	30.49	28.73	27.47	62000.0	60000.0	36.92	32.65	31.78	62000.0	59000.0	28.09	28.83	28.57
63000.0	62800.0	28.46	29.88	28.88	63000.0	61000.0	29.03	28.04	27.25	63000.0	60000.0	29.25	29.49	29.56
64000.0	63800.0	26.54	25.07	23.33	64000.0	62000.0	27.79	26.34	25.89	64000.0	61000.0	28.41	28.07	27.65
65000.0	64800.0	21.26	19.75	19.08	65000.0	63000.0	27.29	24.96	24.10	65000.0	62000.0	26.40	25.89	25.57



Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	Image Rejection (DOWN Conv. Mode) IF FIXED @IF(OUT)=200MHz			RF (IN) (MHz)	LO (MHz)	Image Rejection (DOWN Conv. Mode) IF FIXED @IF(OUT)=200MHz			RF (IN) (MHz)	LO (MHz)	Image Rejection (DOWN Conv. Mode) IF FIXED @IF(OUT)=3000MHz		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
18400.0	18200.0	18.63	20.34	22.11	18400.0	16400.0				18400.0	15400.0			
19000.0	18800.0	21.35	21.93	22.59	19000.0	17000.0				19000.0	16000.0			
20000.0	19800.0	22.56	22.96	23.41	20000.0	18000.0				20000.0	17000.0			
21000.0	20800.0	23.30	22.70	22.41	21000.0	19000.0				21000.0	18000.0			
22000.0	21800.0	22.43	23.88	26.12	22000.0	20000.0	35.35	40.88	29.71	22000.0	19000.0			
23000.0	22800.0	22.53	23.51	24.75	23000.0	21000.0	22.53	23.61	24.99	23000.0	20000.0			
24000.0	23800.0	22.49	23.45	24.76	24000.0	22000.0	25.48	27.62	31.10	24000.0	21000.0	27.20	26.52	25.76
25000.0	24800.0	22.86	23.63	24.56	25000.0	23000.0	27.40	29.94	33.49	25000.0	22000.0	31.53	32.81	31.89
26000.0	25800.0	22.24	22.82	23.56	26000.0	24000.0	32.86	36.28	41.45	26000.0	23000.0	26.90	27.93	28.54
27000.0	26800.0	21.41	21.51	21.63	27000.0	25000.0	31.48	32.97	34.84	27000.0	24000.0	29.38	30.07	30.59
28000.0	27800.0	19.15	19.49	19.61	28000.0	26000.0	30.64	30.83	31.53	28000.0	25000.0	33.22	33.28	33.16
29000.0	28800.0	17.93	17.95	18.06	29000.0	27000.0	28.26	29.85	31.11	29000.0	26000.0	30.84	32.09	33.01
30000.0	29800.0	17.11	17.09	17.13	30000.0	28000.0	25.03	25.64	25.88	30000.0	27000.0	30.59	31.77	32.95
31000.0	30800.0	16.92	16.61	16.36	31000.0	29000.0	23.74	23.69	23.71	31000.0	28000.0	28.32	29.81	30.79
32000.0	31800.0	17.24	16.62	15.88	32000.0	30000.0	23.10	22.82	22.63	32000.0	29000.0	26.29	26.71	27.87
33000.0	32800.0	17.33	16.34	15.49	33000.0	31000.0	24.63	23.64	22.63	33000.0	30000.0	25.88	26.10	26.41
34000.0	33800.0	17.97	16.96	16.01	34000.0	32000.0	25.28	22.93	20.79	34000.0	31000.0	25.92	26.19	26.36
35000.0	34800.0	21.25	19.85	18.41	35000.0	33000.0	21.44	20.02	18.96	35000.0	32000.0	35.44	34.23	29.28
36000.0	35800.0	21.69	20.49	18.99	36000.0	34000.0	30.12	27.66	24.30	36000.0	33000.0	31.66	36.64	33.01
37000.0	36800.0	22.13	21.34	19.98	37000.0	35000.0	28.00	30.78	27.36	37000.0	34000.0	27.22	31.64	34.43
38000.0	37800.0	22.38	21.97	20.88	38000.0	36000.0	25.46	26.66	25.13	38000.0	35000.0	25.37	29.25	32.68
39000.0	38800.0	22.53	22.31	21.15	39000.0	37000.0	25.21	27.01	27.23	39000.0	36000.0	22.00	26.83	36.90
40000.0	39800.0	23.10	24.33	25.53	40000.0	38000.0	26.03	28.19	31.28	40000.0	37000.0	21.42	22.70	24.03
41000.0	40800.0	33.99	38.53	40.53	41000.0	39000.0	44.27	35.01	30.54	41000.0	38000.0	25.70	26.55	27.31
42000.0	41800.0	31.74	32.53	32.07	42000.0	40000.0	31.41	32.17	30.94	42000.0	39000.0	32.58	34.10	32.17
43000.0	42800.0	31.26	31.38	30.91	43000.0	41000.0	29.00	29.17	27.77	43000.0	40000.0	32.98	36.35	40.45
44000.0	43800.0	24.69	25.08	25.09	44000.0	42000.0	25.47	25.36	24.87	44000.0	41000.0	34.64	39.72	36.64
45000.0	44800.0	23.88	24.57	25.15	45000.0	43000.0	23.43	24.35	24.94	45000.0	42000.0	27.23	29.08	31.66
46000.0	45800.0	23.87	24.38	24.89	46000.0	44000.0	26.29	27.67	28.58	46000.0	43000.0	27.37	29.38	31.69
47000.0	46800.0	26.09	26.54	26.92	47000.0	45000.0	25.34	26.52	27.29	47000.0	44000.0	27.89	30.75	32.61
48000.0	47800.0	30.20	29.87	29.71	48000.0	46000.0	24.34	25.74	26.94	48000.0	45000.0	27.14	27.97	28.85
49000.0	48800.0	34.34	36.51	36.09	49000.0	47000.0	30.12	30.77	31.05	49000.0	46000.0	25.97	26.30	27.02
50000.0	49800.0	23.86	31.58	38.86	50000.0	48000.0	38.87	37.38	35.93	50000.0	47000.0	27.97	27.25	27.14
51000.0	50800.0	42.67	37.23	34.86	51000.0	49000.0	34.38	39.76	43.72	51000.0	48000.0	26.96	25.88	25.20
52000.0	51800.0	27.89	27.99	27.30	52000.0	50000.0	26.61	34.22	35.07	52000.0	49000.0	28.82	26.43	24.88
53000.0	52800.0	20.88	21.77	22.45	53000.0	51000.0	26.40	25.61	25.07	53000.0	50000.0	24.18	24.28	22.53
54000.0	53800.0	20.89	21.61	22.21	54000.0	52000.0	19.80	20.40	20.81	54000.0	51000.0	18.38	18.16	18.11
55000.0	54800.0	20.47	20.89	21.22	55000.0	53000.0	18.44	19.14	19.80	55000.0	52000.0	17.80	17.82	17.76
56000.0	55800.0	18.10	18.79	19.36	56000.0	54000.0	19.88	20.09	20.26	56000.0	53000.0	18.33	18.23	18.25
57000.0	56800.0	16.34	17.04	17.77	57000.0	55000.0	19.28	20.04	20.64	57000.0	54000.0	17.79	17.93	18.30
58000.0	57800.0	17.06	17.83	18.52	58000.0	56000.0	18.13	19.01	19.85	58000.0	55000.0	17.83	17.96	18.23
59000.0	58800.0	16.40	17.15	17.91	59000.0	57000.0	17.37	17.99	18.63	59000.0	56000.0	17.08	17.55	17.81
60000.0	59800.0	16.89	17.19	17.40	60000.0	58000.0	17.67	18.83	19.88	60000.0	57000.0	15.58	16.17	16.69
61000.0	60800.0	18.53	19.01	19.32	61000.0	59000.0	15.65	16.45	17.02	61000.0	58000.0	15.81	16.88	17.79
62000.0	61800.0	18.59	19.18	19.67	62000.0	60000.0	16.28	16.85	17.13	62000.0	59000.0	15.76	16.09	16.31
63000.0	62800.0	18.49	19.07	19.33	63000.0	61000.0	18.01	18.85	19.20	63000.0	60000.0	14.76	15.27	15.46
64000.0	63800.0	18.82	20.80	21.45	64000.0	62000.0	17.90	18.64	19.01	64000.0	61000.0	13.99	14.67	15.35
65000.0	64800.0	21.74	23.18	24.18	65000.0	63000.0	17.43	17.92	18.01	65000.0	62000.0			



Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS VS. RF FREQUENCY @IF = 200 MHz			IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. RF FREQUENCY @IF = 2000 MHz			IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. RF FREQUENCY @IF = 3000 MHz		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
18000.0	18200.0	11.46	11.41	11.47	18000.0	20000.0	12.14	12.14	12.25	18000.0	21000.0	11.79	11.91	12.15
19000.0	19200.0	10.39	10.28	10.24	19000.0	21000.0	10.08	10.21	10.41	19000.0	22000.0	10.01	10.18	10.46
20000.0	20200.0	9.44	9.31	9.25	20000.0	22000.0	9.11	9.21	9.41	20000.0	23000.0	9.30	9.51	9.80
21000.0	21200.0	8.71	8.65	8.69	21000.0	23000.0	8.72	8.89	9.15	21000.0	24000.0	9.00	9.20	9.49
22000.0	22200.0	8.29	8.33	8.48	22000.0	24000.0	8.67	8.88	9.18	22000.0	25000.0	8.77	9.03	9.39
23000.0	23200.0	8.93	9.09	9.37	23000.0	25000.0	9.31	9.56	9.86	23000.0	26000.0	9.54	9.77	10.01
24000.0	24200.0	10.07	10.24	10.45	24000.0	26000.0	10.53	10.76	11.00	24000.0	27000.0	10.74	11.06	11.30
25000.0	25200.0	10.61	10.82	11.02	25000.0	27000.0	10.97	11.28	11.54	25000.0	28000.0	10.97	11.37	11.81
26000.0	26200.0	10.84	11.14	11.51	26000.0	28000.0	11.09	11.49	11.98	26000.0	29000.0	11.22	11.56	12.08
27000.0	27200.0	11.37	11.72	12.19	27000.0	29000.0	11.66	12.03	12.58	27000.0	30000.0	11.69	11.98	12.47
28000.0	28200.0	11.77	12.16	12.72	28000.0	30000.0	11.89	12.20	12.64	28000.0	31000.0	11.92	12.17	12.60
29000.0	29200.0	11.39	11.78	12.39	29000.0	31000.0	11.48	11.77	12.24	29000.0	32000.0	11.40	11.60	11.99
30000.0	30200.0	11.70	12.05	12.59	30000.0	32000.0	11.60	11.79	12.22	30000.0	33000.0	11.57	11.85	12.35
31000.0	31200.0	11.70	12.02	12.56	31000.0	33000.0	11.77	12.08	12.61	31000.0	34000.0	11.81	12.09	12.59
32000.0	32200.0	11.13	11.39	11.90	32000.0	34000.0	11.29	11.62	12.19	32000.0	35000.0	11.47	11.69	12.14
33000.0	33200.0	10.78	11.07	11.59	33000.0	35000.0	11.60	11.72	12.05	33000.0	36000.0	12.29	12.36	12.62
34000.0	34200.0	10.17	10.39	10.83	34000.0	36000.0	10.76	10.93	11.28	34000.0	37000.0	10.56	10.70	11.08
35000.0	35200.0	9.94	10.59	11.00	35000.0	37000.0	9.55	9.47	9.76	35000.0	38000.0	9.60	9.58	9.92
36000.0	36200.0	8.78	9.02	9.55	36000.0	38000.0	9.21	9.15	9.44	36000.0	39000.0	9.23	9.26	9.61
37000.0	37200.0	8.99	9.17	9.41	37000.0	39000.0	9.40	9.42	9.74	37000.0	40000.0	9.36	9.34	9.53
38000.0	38200.0	9.32	9.51	9.82	38000.0	40000.0	9.69	9.58	9.76	38000.0	41000.0	9.48	9.50	9.88
39000.0	39200.0	9.28	9.45	9.74	39000.0	41000.0	9.53	9.46	9.81	39000.0	42000.0	9.33	9.26	9.53
40000.0	40200.0	9.48	9.55	9.73	40000.0	42000.0	9.55	9.38	9.55	40000.0	43000.0	9.78	9.51	9.59
41000.0	41200.0	9.24	9.28	9.52	41000.0	43000.0	9.78	9.41	9.47	41000.0	44000.0	9.83	9.60	9.71
42000.0	42200.0	9.77	9.70	9.80	42000.0	44000.0	10.20	9.97	10.13	42000.0	45000.0	10.38	10.09	10.16
43000.0	43200.0	11.07	10.98	11.06	43000.0	45000.0	11.57	11.21	11.22	43000.0	46000.0	11.64	11.38	11.48
44000.0	44200.0	12.00	11.88	11.94	44000.0	46000.0	12.56	12.17	12.26	44000.0	47000.0	13.07	12.47	12.37
45000.0	45200.0	12.18	11.98	11.97	45000.0	47000.0	13.00	12.35	12.22	45000.0	48000.0	12.77	12.35	12.37
47000.0	47200.0	11.69	11.30	11.29	47000.0	49000.0	12.46	11.69	11.51	47000.0	50000.0	13.70	12.29	11.90
48000.0	48200.0	11.16	10.96	11.04	48000.0	50000.0	13.17	11.81	11.53	48000.0	51000.0	12.31	11.67	11.53
49000.0	49200.0	11.40	10.69	10.43	49000.0	51000.0	11.47	10.90	10.81	49000.0	52000.0	11.57	11.08	10.96
50000.0	50200.0	12.16	11.05	10.59	50000.0	52000.0	11.34	10.86	10.86	50000.0	53000.0	11.85	11.02	10.75
51000.0	51200.0	11.35	11.20	11.32	51000.0	53000.0	12.38	11.57	11.34	51000.0	54000.0	12.01	11.50	11.44
52000.0	52200.0	11.65	11.42	11.41	52000.0	54000.0	12.17	11.67	11.60	52000.0	55000.0	12.31	11.90	11.87
53000.0	53200.0	11.10	10.72	10.69	53000.0	55000.0	11.81	11.38	11.41	53000.0	56000.0	12.23	11.82	11.79
54000.0	54200.0	10.43	10.22	10.26	54000.0	56000.0	11.44	11.00	11.00	54000.0	57000.0	11.43	10.98	10.93
55000.0	55200.0	10.33	10.17	10.18	55000.0	57000.0	10.87	10.42	10.35	55000.0	58000.0	10.46	10.26	10.47
56000.0	56200.0	10.73	10.57	10.59	56000.0	58000.0	10.83	10.62	10.82	56000.0	59000.0	10.81	10.55	10.57
57000.0	57200.0	11.19	10.99	10.96	57000.0	59000.0	11.20	10.95	10.97	57000.0	60000.0	11.31	10.95	10.96
58000.0	58200.0	10.83	10.87	11.01	58000.0	60000.0	11.43	11.02	11.00	58000.0	61000.0	11.04	10.89	10.91
59000.0	59200.0	10.92	10.76	10.68	59000.0	61000.0	10.87	10.66	10.67	59000.0	62000.0	11.07	10.79	10.72
60000.0	60200.0	10.43	10.35	10.31	60000.0	62000.0	10.76	10.44	10.41	60000.0	63000.0	11.77	11.19	10.90
61000.0	61200.0	10.36	10.40	10.54	61000.0	63000.0	11.58	11.13	10.93	61000.0	64000.0	11.80	10.98	10.82
62000.0	62200.0	11.92	11.68	11.60	62000.0	64000.0	13.06	12.14	11.95	62000.0	65000.0	12.97	12.32	12.10
63000.0	63200.0	14.17	13.71	13.42	63000.0	65000.0	14.26	13.56	13.30	63000.0	66000.0	14.93	14.10	13.66
64000.0	64200.0	13.86	13.34	13.06	64000.0	66000.0	14.70	13.89	13.48	64000.0	67000.0	15.71	15.04	14.66
65000.0	65200.0	12.33	11.98	11.87	65000.0	67000.0	14.23	13.62	13.26					



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IF/RF MICROWAVE COMPONENTS

REV. OR
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Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	IF (MHz)	CONVERSION LOSS VS. IF FREQUENCY @ FIXED LO = 20GHz			RF (IN) (MHz)	IF (MHz)	CONVERSION LOSS VS. IF FREQUENCY @ FIXED LO = 65GHz		
		@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19
20010.0	10.0	9.73	9.55	9.46	35000.0	30000.0	29.63	29.99	30.27
20100.0	100.0	9.56	9.38	9.27	36000.0	29000.0	25.95	26.34	26.67
20200.0	200.0	9.54	9.33	9.22	37000.0	28000.0	23.36	23.69	23.96
20300.0	300.0	9.77	9.54	9.41	38000.0	27000.0	21.40	21.59	21.74
20400.0	400.0	9.75	9.51	9.37	39000.0	26000.0	18.97	18.94	19.06
20500.0	500.0	9.80	9.55	9.40	40000.0	25000.0	17.80	17.60	17.68
20600.0	600.0	9.76	9.51	9.36	41000.0	24000.0	16.71	16.22	16.17
20700.0	700.0	9.75	9.51	9.36	42000.0	23000.0	16.04	15.41	15.32
20800.0	800.0	9.84	9.60	9.46	43000.0	22000.0	16.99	16.20	15.96
20900.0	900.0	9.82	9.59	9.45	44000.0	21000.0	18.51	17.48	17.13
21000.0	1000.0	9.79	9.58	9.45	45000.0	20000.0	20.26	18.84	18.37
22000.0	2000.0	9.34	9.33	9.39	46000.0	19000.0	20.65	19.04	18.63
23000.0	3000.0	9.62	9.71	9.89	47000.0	18000.0	19.75	18.25	17.79
24000.0	4000.0	10.71	10.83	11.07	48000.0	17000.0	18.46	17.38	16.84
25000.0	5000.0	11.57	11.65	11.87	49000.0	16000.0	16.85	15.87	15.36
26000.0	6000.0	12.12	12.19	12.42	50000.0	15000.0	15.25	14.39	14.04
27000.0	7000.0	12.93	12.99	13.23	51000.0	14000.0	15.46	14.60	14.22
28000.0	8000.0	13.51	13.54	13.78	52000.0	13000.0	15.85	14.96	14.55
29000.0	9000.0	13.38	13.37	13.57	53000.0	12000.0	14.83	14.02	13.69
30000.0	10000.0	13.43	13.39	13.58	54000.0	11000.0	13.63	12.81	12.56
31000.0	11000.0	13.69	13.60	13.78	55000.0	10000.0	13.43	12.64	12.31
32000.0	12000.0	13.56	13.43	13.60	56000.0	9000.0	13.75	12.97	12.65
33000.0	13000.0	12.80	12.67	12.87	57000.0	8000.0	13.69	12.91	12.61
34000.0	14000.0	11.26	11.16	11.37	58000.0	7000.0	13.23	12.54	12.20
35000.0	15000.0	10.75	10.62	10.80	59000.0	6000.0	12.45	11.86	11.61
36000.0	16000.0	11.53	11.41	11.58	60000.0	5000.0	11.75	11.31	11.08
37000.0	17000.0	12.30	12.23	12.46	61000.0	4000.0	11.60	11.15	11.08
38000.0	18000.0	12.90	12.91	13.21	62000.0	3000.0	12.95	12.28	12.13
39000.0	19000.0	13.35	13.43	13.82	63000.0	2000.0	14.21	13.48	13.26
40000.0	20000.0	13.12	13.19	13.30	64000.0	1000.0	13.76	13.33	13.08
					64990.0	10.0	12.43	12.08	11.96



Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	L-R ISOLATION (dB)			L-(I) ISOLATION (dB)			L-(Q) ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19
18200	33.85	34.49	34.92	43.78	43.86	43.57	29.09	29.18	29.34
19200	33.00	34.06	34.86	42.30	42.06	42.48	29.74	30.02	30.33
20200	32.54	33.48	34.22	37.73	38.29	39.30	29.56	30.00	30.46
21200	34.63	35.62	36.38	36.36	37.22	38.40	30.10	30.50	30.95
22200	36.11	37.01	37.71	36.17	36.79	37.59	31.25	31.64	32.04
23200	38.60	39.24	39.61	38.34	38.66	39.00	31.11	31.56	31.94
24200	41.69	42.34	42.74	41.09	39.44	38.41	31.65	31.91	32.12
25200	44.35	45.00	45.18	41.32	39.47	38.42	31.29	31.46	31.54
26200	48.21	48.74	48.86	43.52	41.84	40.79	31.43	31.50	31.60
27200	50.25	50.91	50.99	44.84	43.81	43.01	33.06	33.00	33.00
28200	51.83	54.00	56.17	43.41	43.04	42.35	33.94	33.76	33.69
29200	49.51	50.58	51.84	42.69	42.75	42.50	34.74	34.42	34.25
30200	51.67	53.77	56.14	42.36	42.63	42.67	35.20	34.84	34.62
31200	51.62	53.71	57.43	42.33	42.67	42.87	35.64	35.28	35.05
32200	56.08	58.23	61.13	42.75	43.03	43.19	36.05	35.72	35.48
33200	52.56	53.01	53.11	42.70	42.90	42.96	35.03	34.83	34.67
34200	51.25	52.14	52.92	42.79	42.98	43.03	33.37	33.27	33.20
35200	44.80	45.26	45.72	43.62	43.88	44.02	33.39	33.37	33.35
36200	42.91	43.28	43.74	43.96	44.24	44.42	33.53	33.56	33.59
37200	44.30	44.58	44.72	45.09	45.34	45.51	33.79	33.84	33.87
38200	43.26	43.68	43.97	45.01	45.26	45.46	33.01	33.12	33.21
39200	41.35	41.80	42.15	43.90	44.09	44.27	31.95	32.10	32.23
40200	40.47	41.37	42.12	42.79	43.01	43.26	35.04	35.15	35.21
41200	46.52	47.59	47.98	47.46	47.63	47.81	31.83	31.97	32.05
42200	42.28	42.72	43.08	49.47	49.41	49.40	30.84	31.00	31.13
43200	39.22	39.37	39.51	47.12	47.31	47.45	29.45	29.61	29.74
44200	35.66	36.02	36.30	35.47	35.91	36.25	28.55	28.68	28.79
45200	42.60	43.30	43.82	35.08	35.41	35.65	26.83	26.96	27.06
47200	51.49	53.26	55.22	35.77	36.12	36.43	56.00	57.95	58.10
48200	54.80	57.50	56.84	34.85	35.16	35.40	52.87	53.25	53.24
49200	54.80	55.60	55.62	35.11	35.49	35.87	49.01	48.55	49.04
50200	55.89	56.92	57.36	34.78	35.12	35.53	46.86	46.67	46.39
51200	54.03	55.52	54.49	30.29	30.53	30.71	44.78	44.61	44.72
52200	54.34	55.71	56.22	25.82	26.16	26.48	40.68	40.64	40.87
53200	52.21	54.27	56.14	27.91	28.11	28.27	36.97	36.94	36.75
54200	52.11	51.95	51.33	31.01	31.24	31.47	34.72	34.50	34.27
55200	51.16	50.48	50.74	33.36	33.43	33.47	42.45	42.43	42.16
56200	51.72	52.40	52.52	44.36	44.23	44.10	49.20	49.01	48.92
57200	52.41	53.45	53.66	49.35	49.72	49.98	53.72	53.59	52.62
58200	49.65	48.28	47.23	36.31	36.08	35.96	48.52	48.90	48.83
59200	52.20	53.78	53.77	41.07	41.08	41.07	52.12	51.90	52.18
60200	48.93	49.93	50.69	42.31	42.13	42.04	56.23	54.54	56.07
61200	46.53	47.17	47.59	39.93	40.09	40.07	58.07	57.48	58.79
62200	45.51	46.25	46.53	41.32	41.61	41.70	61.88	61.11	59.00
63200	46.02	46.81	47.65	41.95	42.52	43.08	61.65	60.59	63.16
64200	44.98	45.48	46.03	41.73	42.03	42.49	62.66	59.78	60.29
65200	43.61	43.94	44.24	41.58	41.85	42.22	59.81	59.62	60.37

Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	R-(I) ISOLATION (dB)			R-(Q) ISOLATION (dB)			RF-R ISOLATION (dB)		
		@LO (dBm)			@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19	+17	+18	+19
18000.0	18200.0	26.12	26.36	26.60	31.78	32.17	32.38	3.77	3.71	3.65
19000.0	19200.0	26.58	26.54	26.58	32.78	33.20	33.57	5.64	5.41	5.25
20000.0	20200.0	27.04	26.96	26.97	30.82	31.01	31.17	7.21	7.26	7.32
21000.0	21200.0	25.24	25.50	25.84	36.46	35.91	35.07	11.03	11.35	11.68
22000.0	22200.0	22.46	22.66	23.01	31.47	30.41	29.48	13.13	13.06	13.42
23000.0	23200.0	23.54	23.46	23.48	34.49	33.77	33.06	11.83	11.99	12.41
24000.0	24200.0	24.90	24.91	25.00	38.19	37.71	37.30	6.83	6.94	7.14
25000.0	25200.0	25.05	25.10	25.19	37.50	37.16	36.92	3.92	3.94	4.05
26000.0	26200.0	26.22	26.32	26.45	39.23	39.20	39.20	4.59	4.65	4.72
27000.0	27200.0	28.07	28.12	28.28	42.73	42.64	42.47	5.58	5.71	5.76
28000.0	28200.0	28.87	28.89	28.97	43.15	42.86	42.80	4.02	4.08	4.14
29000.0	29200.0	29.44	29.48	29.55	43.70	43.59	43.30	4.25	4.35	4.40
30000.0	30200.0	30.78	30.84	30.95	45.08	44.90	44.81	4.24	4.30	4.34
31000.0	31200.0	31.58	31.62	31.74	45.00	45.20	45.48	3.67	3.82	3.82
32000.0	32200.0	31.94	31.99	32.11	42.69	42.37	42.78	4.04	4.13	4.10
33000.0	33200.0	32.27	32.29	32.37	45.28	45.56	45.36	4.55	4.73	4.70
34000.0	34200.0	31.76	31.84	31.92	43.92	44.07	44.00	5.44	5.74	5.68
35000.0	35200.0	31.00	30.85	30.83	41.28	41.21	41.37	9.62	9.44	9.25
36000.0	36200.0	31.39	31.50	31.66	40.56	40.86	40.72	13.24	13.60	13.81
37000.0	37200.0	32.73	32.84	32.95	40.15	40.13	40.23	9.66	9.95	10.21
38000.0	38200.0	34.14	34.17	34.20	37.73	37.80	37.85	8.79	9.04	9.27
39000.0	39200.0	35.05	35.14	35.13	32.42	32.45	32.64	8.35	8.57	8.66
40000.0	40200.0	32.13	32.07	32.13	26.68	26.83	26.93	9.10	9.44	9.64
41000.0	41200.0	29.81	29.97	30.03	31.63	31.77	32.03	10.78	11.21	11.37
42000.0	42200.0	29.83	29.87	30.05	38.70	38.62	38.87	8.41	8.54	8.71
43000.0	43200.0	29.00	29.09	29.23	43.00	43.19	43.14	5.60	5.75	5.84
44000.0	44200.0	26.00	26.03	26.13	35.50	35.47	35.57	4.32	4.43	4.49
45000.0	45200.0	32.36	32.54	32.69	33.52	33.64	33.79	3.55	3.66	3.73
47000.0	47200.0	56.00	57.95	58.10	37.32	37.53	37.59	4.74	4.90	5.04
48000.0	48200.0	52.87	53.25	53.24	38.36	38.40	38.52	7.25	7.54	7.79
49000.0	49200.0	49.01	48.55	49.04	37.85	38.07	38.36	7.43	7.85	8.15
50000.0	50200.0	46.86	46.67	46.39	38.81	38.63	38.77	5.78	6.11	6.35
51000.0	51200.0	44.78	44.61	44.72	39.42	39.37	39.45	5.31	5.58	5.64
52000.0	52200.0	40.68	40.64	40.87	37.15	37.24	37.45	4.86	5.04	5.20
53000.0	53200.0	36.97	36.94	36.75	32.83	32.62	32.76	6.60	6.79	6.89
54000.0	54200.0	34.72	34.50	34.27	29.01	28.88	28.79	9.88	9.83	9.74
55000.0	55200.0	42.45	42.43	42.16	34.87	34.56	34.53	17.13	16.62	16.42
56000.0	56200.0	49.20	49.01	48.92	39.04	39.14	38.63	10.59	10.64	10.88
57000.0	57200.0	53.72	53.59	52.62	40.16	39.72	39.53	6.80	6.91	7.04
58000.0	58200.0	48.52	48.90	48.83	36.37	36.21	36.08	7.24	7.52	7.49
59000.0	59200.0	52.12	51.90	52.18	44.57	44.54	44.81	8.11	8.35	8.58
60000.0	60200.0	56.23	54.54	56.07	50.41	49.21	50.29	14.70	15.04	15.26
61000.0	61200.0	58.07	57.48	58.79	52.52	53.28	52.89	9.41	9.40	9.71
62000.0	62200.0	61.88	61.11	59.00	55.06	54.59	54.83	6.21	6.31	6.47
63000.0	63200.0	61.65	60.59	63.16	53.98	54.29	53.27	4.09	4.15	4.22
64000.0	64200.0	62.66	59.78	60.29	53.02	53.93	53.61	4.44	4.50	4.62
65000.0	65200.0	59.81	59.62	60.37	51.80	50.98	51.77	9.30	9.51	9.56

Frequency Mixer **SMIQ-653H-D+**

Typical Performance Data

RF (IN) (MHz)	IF (MHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 200 MHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 200 MHz		
		@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19
18000.0	18200.0	-0.90	-0.61	-0.42	-6.10	-6.32	-6.33
19000.0	19200.0	-0.48	-0.31	-0.14	-7.70	-7.91	-7.43
20000.0	20200.0	-0.29	-0.28	-0.23	-4.43	-3.45	-2.54
21000.0	21200.0	-0.14	-0.10	-0.04	-1.06	-0.11	0.72
22000.0	22200.0	-0.33	-0.16	0.02	-9.55	-8.90	-7.84
23000.0	23200.0	-0.27	-0.12	0.03	-5.48	-4.72	-3.83
24000.0	24200.0	-0.18	-0.05	0.06	-4.77	-4.20	-3.59
25000.0	25200.0	-0.08	0.02	0.11	-3.94	-3.50	-3.01
26000.0	26200.0	-0.22	-0.17	-0.11	-2.64	-2.27	-2.15
27000.0	27200.0	-0.26	-0.32	-0.40	-2.77	-1.77	-1.35
28000.0	28200.0	-0.65	-0.65	-0.65	-5.97	-5.30	-4.94
29000.0	29200.0	-0.89	-0.90	-0.92	-6.43	-6.13	-5.79
30000.0	30200.0	-1.12	-1.19	-1.26	-6.11	-5.95	-5.64
31000.0	31200.0	-1.10	-1.25	-1.43	-4.54	-4.41	-4.13
32000.0	32200.0	-1.15	-1.38	-1.66	-0.09	0.37	0.62
33000.0	33200.0	-1.15	-1.48	-1.76	0.22	0.95	1.45
34000.0	34200.0	-0.98	-1.30	-1.60	5.70	5.11	4.21
35000.0	35200.0	-0.97	-1.11	-1.15	2.78	2.55	2.70
36000.0	36200.0	0.00	-0.36	-0.81	6.30	5.65	4.91
37000.0	37200.0	0.19	-0.07	-0.41	6.43	5.81	5.41
38000.0	38200.0	0.27	-0.01	-0.37	6.50	5.50	4.90
39000.0	39200.0	0.36	0.14	-0.17	6.74	5.71	4.96
40000.0	40200.0	0.99	0.79	0.55	5.12	3.99	3.07
41000.0	41200.0	0.24	0.01	-0.33	1.39	0.47	-0.31
42000.0	42200.0	0.09	-0.13	-0.37	2.83	1.89	1.08
43000.0	43200.0	-0.21	-0.38	-0.57	3.19	1.95	0.79
44000.0	44200.0	-0.58	-0.64	-0.75	4.17	3.37	2.49
45000.0	45200.0	-0.37	-0.41	-0.46	7.08	6.16	5.34
47000.0	47200.0	-0.28	-0.18	-0.17	4.09	3.89	3.61
48000.0	48200.0	-0.19	-0.08	-0.04	1.98	2.05	2.18
49000.0	49200.0	-0.66	-0.21	-0.06	0.28	0.12	0.29
50000.0	50200.0	-1.62	-0.48	-0.15	0.47	-0.04	-0.17
51000.0	51200.0	0.03	0.24	0.43	-2.14	-1.89	-1.67
52000.0	52200.0	0.01	0.26	0.42	-6.62	-5.89	-5.12
53000.0	53200.0	-0.26	0.09	0.27	-10.62	-9.40	-8.19
54000.0	54200.0	-0.20	0.06	0.28	-10.53	-9.50	-8.67
55000.0	55200.0	0.10	0.27	0.50	-13.13	-11.87	-10.61
56000.0	56200.0	0.02	0.18	0.36	-16.81	-15.07	-13.30
57000.0	57200.0	-0.18	0.01	0.13	-19.38	-17.59	-15.96
58000.0	58200.0	0.02	0.11	0.32	-17.41	-15.72	-13.75
59000.0	59200.0	-0.24	-0.11	-0.04	-17.80	-16.72	-15.70
60000.0	60200.0	-0.31	-0.18	-0.13	-16.27	-15.46	-14.89
61000.0	61200.0	-0.24	-0.14	0.01	-14.20	-13.35	-12.13
62000.0	62200.0	-0.37	-0.23	-0.14	-13.57	-13.05	-12.55
63000.0	63200.0	-1.07	-0.61	-0.41	-11.28	-11.52	-11.47
64000.0	64200.0	-1.04	-0.41	-0.23	-9.80	-9.27	-8.67
65000.0	65200.0	-1.43	-0.59	-0.26	-8.48	-7.70	-6.73

Frequency Mixer **SMIQ-653H-D+**

Typical Performance Data

RF (IN) (MHz)	IF (MHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 2000 MHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 2000 MHz		
		@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19
18000.0	20000.0	-0.64	-0.53	-0.37	-1.13	-0.18	0.90
19000.0	21000.0	-0.54	-0.49	-0.41	5.87	5.62	5.14
20000.0	22000.0	-0.34	-0.29	-0.23	3.71	3.39	3.34
21000.0	23000.0	0.08	0.21	0.34	-1.29	-0.72	0.06
22000.0	24000.0	-0.37	-0.25	-0.16	-1.89	-1.64	-1.07
23000.0	25000.0	-0.28	-0.17	-0.07	-0.31	-0.14	0.21
24000.0	26000.0	-0.48	-0.37	-0.25	-0.87	-0.36	0.23
25000.0	27000.0	-0.66	-0.72	-0.77	-1.39	-1.01	-0.73
26000.0	28000.0	-0.54	-0.61	-0.71	-1.89	-0.94	-0.61
27000.0	29000.0	-0.96	-0.98	-0.99	-4.79	-4.13	-3.58
28000.0	30000.0	-1.30	-1.33	-1.36	-6.46	-5.99	-5.24
29000.0	31000.0	-1.46	-1.58	-1.71	-6.43	-5.97	-5.20
30000.0	32000.0	-1.56	-1.78	-2.01	-2.68	-2.08	-1.62
31000.0	33000.0	-1.53	-1.90	-2.24	0.19	0.49	0.63
32000.0	34000.0	-1.67	-2.03	-2.31	2.09	2.04	1.77
33000.0	35000.0	-1.64	-1.91	-2.13	7.94	7.43	6.80
34000.0	36000.0	-0.82	-1.17	-1.51	7.97	7.38	6.91
35000.0	37000.0	-0.66	-0.98	-1.32	9.24	8.92	8.74
36000.0	38000.0	-0.54	-0.83	-1.12	9.63	9.13	9.02
37000.0	39000.0	-0.28	-0.51	-0.82	10.17	9.44	8.95
38000.0	40000.0	-0.16	-0.38	-0.66	10.51	9.63	9.05
39000.0	41000.0	-0.02	-0.29	-0.67	10.81	9.82	9.21
40000.0	42000.0	0.69	0.42	0.13	8.41	7.08	6.08
41000.0	43000.0	-0.08	-0.26	-0.44	4.32	3.06	2.05
42000.0	44000.0	-0.52	-0.62	-0.67	5.07	4.12	3.39
43000.0	45000.0	-0.77	-0.83	-0.86	4.49	3.80	3.29
44000.0	44200.0	-1.20	-1.27	-1.33	5.19	3.77	3.02
45000.0	45200.0	-0.89	-0.84	-0.87	7.24	6.35	5.90
47000.0	47200.0	-0.95	-0.67	-0.59	3.23	2.43	2.36
48000.0	48200.0	-0.95	-0.67	-0.59	3.23	2.43	2.36
49000.0	49200.0	-1.07	-0.73	-0.52	1.36	0.55	0.36
50000.0	50200.0	-0.66	-0.43	-0.24	-1.48	-1.65	-1.24
51000.0	51200.0	-0.99	-0.52	-0.34	-5.25	-5.11	-4.42
52000.0	52200.0	-0.61	-0.40	-0.21	-7.30	-6.53	-5.42
53000.0	53200.0	-0.58	-0.39	-0.14	-7.46	-6.82	-5.89
54000.0	54200.0	-0.04	0.06	0.19	-9.97	-9.26	-8.17
55000.0	55200.0	-0.20	-0.05	0.02	-13.86	-12.97	-11.66
56000.0	56200.0	-0.19	-0.11	0.10	-14.09	-13.02	-11.21
57000.0	57200.0	-0.41	-0.34	-0.28	-14.02	-13.34	-12.29
58000.0	58200.0	-0.69	-0.52	-0.47	-14.02	-13.79	-13.19
59000.0	59200.0	-0.61	-0.53	-0.43	-12.82	-12.33	-11.36
60000.0	60200.0	-0.72	-0.61	-0.54	-11.20	-11.24	-10.53
61000.0	61200.0	-1.20	-0.96	-0.85	-8.47	-9.03	-8.93
62000.0	62200.0	-1.64	-0.95	-0.79	-5.97	-6.74	-6.51
63000.0	63200.0	-1.87	-1.12	-0.78	-4.75	-5.32	-4.94
64000.0	64200.0	-3.03	-1.92	-1.02	-3.15	-4.50	-4.09
65000.0	65200.0	-4.29	-3.59	-3.03	0.77	-1.42	-2.80

Frequency Mixer **SMIQ-653H-D+**

Typical Performance Data

RF (IN) (MHz)	IF (MHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 3000 MHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 3000 MHz		
		@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19
18000.0	21000.0	-1.53	-1.39	-1.21	8.84	8.48	7.95
19000.0	22000.0	-1.45	-1.37	-1.28	5.75	4.94	4.43
20000.0	23000.0	-0.85	-0.76	-0.66	3.60	3.60	3.84
21000.0	24000.0	-0.72	-0.59	-0.48	-0.77	-0.74	-0.47
22000.0	25000.0	-0.75	-0.63	-0.53	1.42	1.71	2.26
23000.0	26000.0	-0.87	-0.79	-0.69	1.38	2.24	3.00
24000.0	27000.0	-1.01	-1.04	-1.07	-0.07	-0.11	-0.19
25000.0	28000.0	-0.99	-1.09	-1.18	-0.54	-0.01	-0.11
26000.0	29000.0	-1.09	-1.12	-1.18	-4.12	-3.36	-2.76
27000.0	30000.0	-1.41	-1.46	-1.53	-6.39	-5.70	-4.84
28000.0	31000.0	-1.55	-1.70	-1.85	-6.55	-6.05	-5.25
29000.0	32000.0	-1.68	-1.92	-2.20	-2.91	-2.50	-2.08
30000.0	33000.0	-1.97	-2.29	-2.59	0.43	0.39	0.17
31000.0	34000.0	-2.12	-2.45	-2.73	1.73	1.55	1.23
32000.0	35000.0	-2.10	-2.44	-2.74	4.56	4.42	4.38
33000.0	36000.0	-1.31	-1.66	-2.01	9.91	9.32	8.69
34000.0	37000.0	-1.28	-1.57	-1.90	9.82	9.50	9.32
35000.0	38000.0	-1.05	-1.28	-1.59	10.31	9.31	9.33
36000.0	39000.0	-0.89	-1.16	-1.49	11.35	10.06	9.94
37000.0	40000.0	-0.66	-0.90	-1.15	12.06	10.51	10.02
38000.0	41000.0	-0.53	-0.83	-1.18	12.15	10.10	9.16
39000.0	42000.0	-0.28	-0.52	-0.80	11.70	9.83	8.81
40000.0	43000.0	0.40	0.17	-0.05	8.77	6.74	5.61
41000.0	44000.0	-0.62	-0.71	-0.85	3.94	2.33	1.46
42000.0	45000.0	-0.92	-1.00	-1.06	4.59	3.02	2.35
43000.0	43200.0	-1.14	-1.18	-1.24	4.63	2.90	2.04
44000.0	44200.0	-1.69	-1.66	-1.69	5.57	4.14	3.60
45000.0	45200.0	-1.23	-1.19	-1.19	6.49	5.21	4.73
47000.0	47200.0	-2.65	-1.46	-1.12	3.77	1.70	1.61
48000.0	48200.0	-1.65	-1.22	-0.95	1.58	0.65	0.58
49000.0	49200.0	-1.31	-1.04	-0.82	-0.09	-0.53	-0.13
50000.0	50200.0	-1.56	-1.08	-0.85	-4.25	-4.27	-3.47
51000.0	51200.0	-1.00	-0.77	-0.60	-5.82	-5.37	-4.25
52000.0	52200.0	-1.01	-0.83	-0.53	-7.31	-6.83	-5.66
53000.0	53200.0	-0.67	-0.54	-0.34	-6.34	-6.11	-5.32
54000.0	54200.0	-0.62	-0.42	-0.32	-10.74	-10.46	-9.38
55000.0	55200.0	-0.56	-0.48	-0.25	-12.42	-11.74	-10.13
56000.0	56200.0	-0.81	-0.74	-0.68	-12.97	-12.68	-11.58
57000.0	57200.0	-1.07	-0.89	-0.83	-13.56	-13.46	-12.67
58000.0	58200.0	-0.91	-0.83	-0.74	-11.91	-11.80	-10.75
59000.0	59200.0	-1.10	-1.00	-0.91	-10.11	-10.39	-9.82
60000.0	60200.0	-1.72	-1.46	-1.32	-7.57	-8.29	-8.12
61000.0	61200.0	-2.16	-1.42	-1.21	-4.94	-6.02	-5.96
62000.0	62200.0	-2.24	-1.52	-1.16	-3.83	-4.68	-4.23
63000.0	63200.0	-3.45	-2.25	-1.38	-1.92	-3.70	-3.41
64000.0	64200.0	-4.85	-4.02	-3.41	2.56	-0.01	-1.60

Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)			GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)			GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)					
	IF = 200MHz									IF = 2000MHz						IF = 3000MHz					
	@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)					
	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19			
18000.0	0.75	0.70	0.59	0.79	0.68	0.57	0.22	0.27	0.27	0.27	0.29	0.28	0.25	0.31	0.32	0.36	0.36	0.34			
19000.0	0.36	0.36	0.35	0.44	0.39	0.34	0.44	0.45	0.44	0.42	0.38	0.36	0.44	0.44	0.42	0.48	0.46	0.43			
20000.0	0.21	0.25	0.27	0.19	0.23	0.24	0.49	0.49	0.47	0.47	0.45	0.43	0.52	0.50	0.46	0.49	0.47	0.44			
21000.0	0.29	0.31	0.32	0.26	0.29	0.30	0.50	0.49	0.45	0.43	0.42	0.39	0.58	0.56	0.51	0.47	0.44	0.40			
22000.0	0.24	0.28	0.27	0.27	0.28	0.27	0.53	0.53	0.49	0.46	0.42	0.38	0.61	0.61	0.59	0.53	0.49	0.44			
23000.0	0.27	0.30	0.30	0.31	0.30	0.28	0.49	0.49	0.46	0.43	0.42	0.38	0.44	0.45	0.46	0.45	0.45	0.44			
24000.0	0.23	0.26	0.26	0.27	0.26	0.24	0.33	0.34	0.34	0.33	0.33	0.32	0.34	0.31	0.29	0.30	0.29	0.29			
25000.0	0.16	0.18	0.19	0.20	0.20	0.19	0.23	0.21	0.21	0.25	0.25	0.26	0.31	0.27	0.23	0.27	0.24	0.22			
26000.0	0.18	0.19	0.18	0.21	0.20	0.19	0.27	0.24	0.22	0.25	0.21	0.19	0.32	0.31	0.28	0.30	0.27	0.24			
27000.0	0.16	0.16	0.15	0.15	0.14	0.15	0.24	0.25	0.23	0.27	0.24	0.22	0.27	0.28	0.28	0.28	0.27	0.25			
28000.0	0.17	0.17	0.16	0.22	0.19	0.17	0.25	0.25	0.25	0.32	0.29	0.27	0.29	0.28	0.27	0.32	0.29	0.26			
29000.0	0.17	0.18	0.17	0.23	0.21	0.18	0.27	0.26	0.25	0.31	0.29	0.26	0.29	0.30	0.27	0.32	0.32	0.30			
30000.0	0.17	0.16	0.16	0.24	0.22	0.19	0.27	0.28	0.26	0.32	0.33	0.31	0.26	0.25	0.23	0.29	0.30	0.29			
31000.0	0.20	0.22	0.20	0.28	0.27	0.24	0.25	0.23	0.22	0.30	0.31	0.30	0.25	0.25	0.24	0.30	0.29	0.29			
32000.0	0.25	0.27	0.26	0.28	0.30	0.32	0.28	0.26	0.25	0.35	0.33	0.32	0.24	0.24	0.23	0.35	0.33	0.32			
33000.0	0.35	0.34	0.33	0.42	0.42	0.41	0.31	0.30	0.31	0.42	0.41	0.40	0.32	0.31	0.31	0.29	0.31	0.31			
34000.0	0.26	0.27	0.27	0.34	0.34	0.34	0.34	0.32	0.30	0.29	0.31	0.31	0.35	0.36	0.33	0.39	0.38	0.39			
35000.0	0.37	0.35	0.34	0.28	0.32	0.34	0.42	0.43	0.38	0.45	0.44	0.45	0.44	0.46	0.42	0.54	0.45	0.45			
36000.0	0.36	0.34	0.28	0.33	0.36	0.36	0.40	0.42	0.38	0.48	0.39	0.40	0.42	0.42	0.36	0.47	0.44	0.45			
37000.0	0.30	0.33	0.28	0.28	0.28	0.32	0.37	0.37	0.31	0.40	0.38	0.40	0.41	0.42	0.40	0.56	0.40	0.39			
38000.0	0.26	0.30	0.27	0.34	0.32	0.35	0.36	0.39	0.39	0.58	0.40	0.38	0.45	0.45	0.41	0.58	0.45	0.44			
39000.0	0.27	0.31	0.27	0.29	0.29	0.32	0.37	0.40	0.37	0.50	0.40	0.39	0.45	0.46	0.47	0.59	0.46	0.45			
40000.0	0.24	0.29	0.33	0.43	0.32	0.32	0.43	0.45	0.46	0.55	0.45	0.43	0.44	0.46	0.51	0.44	0.39	0.42			
41000.0	0.21	0.23	0.25	0.27	0.22	0.25	0.29	0.31	0.36	0.32	0.28	0.32	0.32	0.30	0.34	0.45	0.34	0.33			
42000.0	0.13	0.15	0.19	0.21	0.16	0.22	0.26	0.25	0.29	0.43	0.30	0.30	0.33	0.30	0.31	0.41	0.29	0.33			
43000.0	0.52	0.52	0.54	0.54	0.53	0.53	0.55	0.53	0.55	0.58	0.54	0.55	0.56	0.53	0.55	0.57	0.54	0.55			
44000.0	0.38	0.37	0.38	0.35	0.34	0.34	0.39	0.37	0.38	0.40	0.38	0.39	0.45	0.39	0.38	0.43	0.39	0.38			
45000.0	0.49	0.48	0.48	0.53	0.51	0.50	0.60	0.52	0.49	0.60	0.54	0.50	0.59	0.53	0.53	0.55	0.51	0.52			
46000.0	0.43	0.41	0.42	0.44	0.42	0.42	0.46	0.43	0.43	0.44	0.43	0.45	0.59	0.49	0.46	0.51	0.47	0.44			
47000.0	0.63	0.55	0.52	0.62	0.57	0.55	0.81	0.67	0.61	0.74	0.63	0.61	0.58	0.81	0.68	0.88	0.70	0.62			
48000.0	0.45	0.40	0.41	0.43	0.42	0.44	0.52	0.54	0.46	0.70	0.52	0.45	0.38	0.35	0.36	0.41	0.39	0.40			
49000.0	0.69	0.59	0.51	0.69	0.56	0.54	0.53	0.47	0.46	0.55	0.52	0.53	0.47	0.48	0.51	0.47	0.50	0.53			
50000.0	0.50	0.58	0.48	0.70	0.51	0.45	0.44	0.44	0.47	0.44	0.46	0.50	0.48	0.43	0.43	0.47	0.43	0.44			
51000.0	0.61	0.56	0.56	0.51	0.51	0.53	0.59	0.54	0.52	0.59	0.55	0.54	0.52	0.49	0.50	0.50	0.49	0.53			
52000.0	0.51	0.48	0.47	0.46	0.45	0.47	0.47	0.44	0.45	0.45	0.45	0.47	0.41	0.41	0.43	0.44	0.46	0.47			
53000.0	0.77	0.64	0.59	0.62	0.58	0.59	0.49	0.49	0.51	0.51	0.55	0.55	0.44	0.42	0.43	0.46	0.47	0.49			
54000.0	0.47	0.43	0.44	0.44	0.45	0.48	0.40	0.38	0.38	0.32	0.34	0.36	0.57	0.45	0.42	0.36	0.36	0.38			
55000.0	0.45	0.47	0.49	0.46	0.49	0.50	0.67	0.53	0.52	0.44	0.44	0.45	0.52	0.54	0.56	0.55	0.56	0.54			
56000.0	0.64	0.60	0.60	0.53	0.55	0.57	0.66	0.69	0.70	0.60	0.63	0.58	0.88	0.75	0.72	0.68	0.64	0.64			
57000.0	0.58	0.50	0.47	0.44	0.44	0.46	0.62	0.53	0.51	0.52	0.51	0.51	0.92	0.71	0.63	0.64	0.57	0.55			
58000.0	0.49	0.51	0.53	0.51	0.53	0.51	0.94	0.76	0.63	0.65	0.57	0.55	0.62	0.59	0.61	0.58	0.62	0.64			
59000.0	0.98	0.81	0.75	0.74	0.70	0.69	0.79	0.76	0.76	0.78	0.79	0.81	1.04	0.87	0.80	0.84	0.79	0.80			
60000.0	0.87	0.72	0.67	0.71	0.66	0.64	1.10	0.84	0.76	0.86	0.75	0.74	1.08	1.39	1.41	1.34	1.13	1.01			
61000.0	0.79	0.76	0.77	0.81	0.81	0.82	1.25	1.32	1.24	1.20	1.00	0.97	1.19	1.14	1.03	1.01	0.89	0.86			
62000.0	1.00	0.85	0.80	0.93	0.84	0.83	1.25	1.14	1.00	1.06	0.90	0.84	1.07	0.99	0.91	0.81	0.84	0.88			
63000.0	0.86	0.93	0.96	1.10	0.93	0.84	0.85	0.80	0.76	0.76	0.77	0.79	0.46	0.73	0.84	0.75	0.76	0.79			
64000.0	0.69	0.61	0.56	0.61	0.57	0.57	0.23	0.50	0.65	0.60	0.62	0.64	0.70	0.34	0.13	0.61	0.57	0.57			
65000.0	0.56	0.53	0.51	0.49	0.52	0.55	0.54	0.21	0.05	0.56	0.52	0.51									



Frequency Mixer SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	IM3_L(I)			IM3_L(Q)			IM3_H(I)			IM3_H(Q)		
	IF = 200MHz											
	@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19
20000.0	-73.43	-70.43	-68.71	-62.57	-65.67	-67.07	-73.16	-70.02	-68.60	-62.71	-65.56	-67.11
21000.0	-71.09	-71.02	-70.50	-74.53	-74.86	-73.38	-71.00	-71.12	-70.41	-74.49	-74.31	-74.02
22000.0	-73.59	-73.67	-73.45	-74.75	-72.99	-73.18	-73.51	-73.37	-73.35	-74.43	-73.56	-73.48
23000.0	-70.32	-70.41	-70.98	-70.88	-70.78	-70.71	-70.58	-70.62	-70.76	-70.91	-70.95	-70.40
24000.0	-73.75	-73.95	-73.81	-71.77	-72.18	-71.74	-73.75	-74.20	-74.57	-72.38	-72.90	-72.05
25000.0	-76.03	-78.55	-79.36	-80.23	-79.53	-78.32	-75.36	-77.86	-77.48	-78.79	-78.58	-77.67
26000.0	-74.30	-76.02	-76.83	-78.07	-78.04	-78.72	-75.31	-76.18	-78.37	-78.01	-78.82	-80.65
27000.0	-75.68	-76.68	-76.43	-80.86	-80.35	-80.66	-75.02	-75.77	-75.98	-80.01	-80.13	-79.61
28000.0	-78.11	-78.82	-76.73	-78.77	-80.36	-79.04	-76.97	-78.41	-77.25	-77.78	-80.23	-79.94
29000.0	-77.46	-79.00	-80.33	-76.27	-78.10	-79.28	-76.67	-78.97	-80.07	-76.13	-77.65	-78.87
30000.0	-78.68	-81.40	-83.95	-76.14	-79.58	-82.65	-79.23	-81.40	-84.94	-75.81	-78.76	-84.08
31000.0	-75.53	-76.10	-79.09	-73.08	-74.75	-77.31	-76.65	-77.40	-80.40	-74.00	-75.11	-79.23
32000.0	-72.45	-72.28	-74.05	-72.50	-71.70	-72.11	-71.87	-72.05	-74.13	-72.73	-71.74	-72.03
33000.0	-70.62	-71.22	-71.07	-69.29	-70.06	-70.86	-70.61	-70.55	-70.73	-69.09	-70.06	-70.29
34000.0	-76.16	-75.36	-74.66	-74.52	-73.71	-73.16	-76.88	-75.50	-74.71	-74.66	-74.61	-73.15
35000.0	-69.36	-69.61	-69.39	-68.98	-68.49	-68.64	-69.13	-69.85	-69.52	-69.49	-68.93	-68.65
36000.0	-67.44	-67.91	-68.41	-71.23	-69.70	-68.54	-67.57	-67.92	-68.47	-70.97	-69.94	-69.18
37000.0	-68.45	-68.54	-69.13	-71.14	-70.78	-70.45	-68.37	-68.41	-69.12	-70.85	-70.87	-70.44
38000.0	-69.10	-68.95	-69.97	-69.59	-69.86	-69.30	-68.63	-68.88	-69.50	-69.55	-69.55	-68.85
39000.0	-67.30	-67.39	-68.55	-69.14	-69.47	-68.83	-67.68	-67.77	-68.64	-69.59	-69.74	-69.14
40000.0	-69.17	-68.33	-67.38	-67.62	-69.26	-69.45	-69.88	-68.36	-67.24	-67.66	-69.81	-69.25
41000.0	-69.97	-68.29	-67.66	-70.89	-70.70	-69.48	-70.04	-68.03	-68.16	-70.35	-71.18	-69.91
42000.0	-70.88	-70.45	-69.60	-72.17	-72.36	-71.52	-71.38	-70.41	-69.29	-72.03	-71.76	-72.63
43000.0	-71.26	-71.05	-70.94	-69.97	-70.58	-70.98	-72.51	-72.33	-70.93	-71.27	-71.46	-72.49
44000.0	-71.42	-72.80	-72.47	-72.19	-74.41	-76.03	-71.42	-73.15	-72.99	-72.68	-73.55	-76.53
45000.0	-72.67	-73.98	-74.71	-72.96	-73.75	-74.69	-73.17	-74.64	-73.88	-73.43	-73.25	-76.69
46000.0	-70.83	-72.07	-72.42	-71.99	-72.93	-73.28	-71.75	-73.02	-73.27	-72.47	-72.90	-74.77
47000.0	-67.08	-68.94	-69.34	-68.48	-69.56	-69.75	-67.05	-68.75	-69.33	-69.16	-70.37	-70.07
48000.0	-68.16	-68.80	-68.87	-68.75	-69.22	-69.44	-67.62	-67.81	-68.57	-68.21	-68.36	-68.69
49000.0	-63.51	-67.99	-68.86	-66.91	-67.66	-68.77	-62.92	-67.39	-68.69	-65.71	-66.95	-67.81
50000.0	-62.38	-68.27	-69.89	-69.21	-70.99	-71.66	-61.75	-66.59	-68.99	-66.75	-69.09	-70.48
51000.0	-68.70	-68.82	-68.76	-71.07	-70.77	-70.08	-67.22	-67.39	-67.51	-69.62	-69.04	-68.26
52000.0	-66.43	-67.52	-68.17	-68.46	-68.43	-68.99	-66.87	-67.98	-68.07	-68.25	-68.68	-68.73
53000.0	-67.00	-70.08	-70.90	-70.65	-70.13	-70.32	-66.27	-68.73	-69.55	-69.13	-69.84	-69.51
54000.0	-73.46	-73.68	-72.55	-73.21	-72.19	-70.60	-71.77	-74.16	-71.49	-72.67	-72.17	-71.25
55000.0	-69.14	-68.22	-67.49	-70.14	-69.65	-69.67	-68.01	-67.64	-67.25	-69.60	-68.72	-68.55
56000.0	-67.57	-66.88	-66.46	-67.54	-67.14	-66.85	-68.42	-67.31	-67.05	-68.13	-67.41	-66.87
57000.0	-70.58	-70.02	-69.48	-69.16	-68.67	-68.32	-70.02	-69.92	-69.78	-70.08	-69.12	-68.99
58000.0	-70.23	-69.32	-68.72	-68.10	-67.49	-68.62	-69.61	-69.55	-68.33	-67.99	-67.81	-69.22
59000.0	-63.27	-68.22	-69.24	-69.53	-70.62	-70.21	-62.95	-67.20	-69.19	-68.90	-69.53	-69.35
60000.0	-67.01	-69.59	-69.77	-68.16	-68.20	-68.40	-67.87	-69.85	-70.33	-67.88	-68.31	-68.48
61000.0	-71.92	-71.28	-70.45	-69.99	-69.29	-67.21	-72.14	-71.22	-69.70	-69.69	-69.08	-67.99
62000.0	-71.07	-72.64	-74.32	-71.59	-71.66	-71.83	-71.38	-73.60	-74.74	-71.60	-73.29	-73.04
63000.0	-62.63	-61.51	-60.86	-62.25	-64.94	-66.49	-62.89	-61.94	-61.21	-63.07	-65.99	-67.87
64000.0	-66.04	-68.14	-71.55	-72.37	-73.79	-74.15	-65.43	-69.24	-72.14	-71.48	-73.02	-73.21
65000.0	-66.00	-68.65	-69.36	-71.02	-69.81	-68.71	-65.79	-69.06	-69.67	-72.17	-70.18	-68.57



Frequency Mixer SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	IM3_L(I)			IM3_L(Q)			IM3_H(I)			IM3_H(Q)		
	IF = 2000MHz											
	@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19
20000.0	-65.33	-66.07	-66.37	-68.85	-69.08	-69.26	-65.19	-65.70	-66.23	-68.57	-69.29	-68.81
21000.0	-66.98	-67.86	-69.12	-70.87	-70.55	-71.37	-67.25	-68.04	-69.36	-71.03	-70.78	-70.64
22000.0	-65.97	-66.34	-67.40	-68.52	-68.83	-69.34	-65.69	-66.41	-67.11	-68.62	-68.59	-69.28
23000.0	-67.18	-67.97	-68.78	-68.13	-68.38	-69.29	-67.17	-68.13	-68.88	-67.96	-68.36	-69.08
24000.0	-70.85	-70.29	-70.32	-72.19	-71.57	-73.07	-70.61	-70.88	-70.49	-72.15	-72.33	-73.07
25000.0	-74.09	-74.78	-73.99	-75.46	-75.93	-73.45	-73.45	-74.64	-73.79	-75.68	-74.48	-73.17
26000.0	-72.30	-73.48	-72.31	-75.04	-77.06	-76.84	-73.25	-73.91	-73.35	-77.90	-79.22	-76.31
27000.0	-75.20	-75.92	-75.75	-76.58	-77.61	-79.77	-76.45	-75.96	-75.72	-74.56	-76.40	-77.77
28000.0	-76.22	-76.13	-76.63	-73.38	-73.97	-75.35	-76.28	-76.34	-76.84	-73.19	-75.02	-75.69
29000.0	-73.38	-74.90	-76.45	-73.69	-74.55	-76.26	-73.62	-73.62	-76.13	-72.36	-72.99	-75.91
30000.0	-73.92	-74.02	-76.55	-73.05	-72.10	-74.21	-75.07	-75.32	-77.22	-72.97	-72.20	-73.33
31000.0	-73.52	-75.89	-75.96	-72.35	-72.23	-71.51	-74.83	-75.05	-77.14	-72.89	-72.26	-71.94
32000.0	-72.06	-72.77	-73.52	-68.86	-70.07	-69.97	-72.17	-73.15	-74.29	-69.17	-69.25	-69.91
33000.0	-77.84	-74.76	-74.75	-73.81	-73.16	-74.58	-77.84	-75.82	-75.00	-73.26	-73.30	-72.81
34000.0	-72.35	-73.21	-72.87	-75.97	-74.88	-74.36	-72.62	-73.41	-72.81	-78.12	-73.72	-73.98
35000.0	-69.34	-69.67	-69.49	-70.78	-71.02	-69.86	-69.73	-69.26	-69.55	-70.52	-70.78	-70.22
36000.0	-69.51	-69.78	-70.25	-70.69	-70.33	-70.20	-69.41	-69.63	-70.21	-70.55	-70.60	-70.22
37000.0	-69.68	-69.83	-70.09	-70.62	-70.22	-69.47	-69.66	-69.41	-69.87	-70.58	-69.99	-69.14
38000.0	-71.67	-70.59	-69.79	-68.86	-70.70	-70.48	-70.72	-70.21	-69.58	-68.92	-70.78	-70.69
39000.0	-70.06	-68.09	-68.03	-68.52	-69.53	-69.16	-70.32	-68.67	-67.58	-68.69	-69.86	-69.52
40000.0	-68.18	-67.49	-66.27	-68.60	-69.56	-69.37	-68.46	-68.08	-66.80	-68.94	-69.50	-68.95
41000.0	-69.71	-69.26	-68.55	-70.81	-71.24	-69.84	-69.34	-68.76	-68.62	-70.20	-71.41	-71.01
42000.0	-69.11	-69.47	-69.74	-68.05	-70.56	-69.94	-68.98	-69.32	-69.22	-68.46	-70.27	-70.06
43000.0	-69.03	-70.42	-70.36	-68.90	-71.06	-70.90	-70.05	-71.16	-71.60	-69.21	-72.26	-72.60
44000.0	-71.81	-74.34	-74.58	-70.39	-72.85	-72.52	-72.12	-73.03	-74.19	-70.59	-72.04	-72.34
45000.0	-69.94	-72.69	-73.00	-70.19	-72.47	-72.84	-70.10	-72.18	-73.65	-70.73	-73.30	-72.99
46000.0	-71.91	-73.18	-74.02	-72.95	-72.53	-72.52	-71.87	-74.39	-73.74	-72.45	-73.64	-72.67
47000.0	-65.45	-68.76	-69.57	-67.21	-69.14	-70.34	-65.38	-68.95	-69.85	-67.15	-68.91	-69.18
48000.0	-60.23	-67.84	-68.70	-64.53	-67.97	-69.07	-59.54	-66.99	-68.36	-63.43	-67.01	-68.35
49000.0	-66.51	-66.72	-66.80	-67.80	-67.71	-67.47	-66.38	-65.97	-66.51	-67.09	-67.21	-66.64
50000.0	-68.19	-68.21	-69.07	-69.21	-69.90	-69.49	-67.44	-67.72	-68.14	-68.66	-68.47	-68.37
51000.0	-69.76	-71.05	-71.98	-69.94	-71.79	-71.72	-68.70	-69.43	-69.59	-68.59	-70.06	-69.71
52000.0	-71.55	-70.88	-70.82	-71.91	-71.50	-70.83	-70.94	-69.91	-70.06	-71.00	-70.94	-69.82
53000.0	-74.46	-74.22	-72.54	-74.58	-72.32	-71.65	-72.98	-71.86	-71.20	-73.11	-70.77	-70.44
54000.0	-69.03	-68.29	-68.12	-71.72	-71.34	-70.62	-69.31	-68.73	-68.11	-72.05	-71.66	-70.97
55000.0	-67.93	-67.82	-66.84	-69.50	-68.82	-68.82	-67.12	-66.47	-66.47	-69.40	-68.32	-67.66
56000.0	-66.87	-66.13	-65.30	-67.67	-67.16	-68.12	-67.24	-66.35	-65.74	-67.49	-67.77	-69.12
57000.0	-69.17	-70.86	-70.31	-70.61	-70.77	-71.15	-68.83	-70.58	-70.00	-70.36	-70.84	-70.36
58000.0	-63.87	-68.48	-70.46	-69.79	-70.46	-70.54	-63.53	-68.16	-69.70	-68.48	-69.67	-70.28
59000.0	-70.37	-69.54	-68.79	-68.62	-67.36	-66.68	-69.39	-69.57	-68.81	-67.72	-66.70	-66.09
60000.0	-67.41	-68.46	-68.76	-66.45	-67.04	-66.55	-67.05	-69.11	-69.57	-67.11	-66.99	-66.83
61000.0	-54.71	-55.77	-56.95	-61.95	-64.56	-65.41	-54.46	-55.66	-57.00	-62.02	-64.35	-65.44
62000.0	-61.33	-62.59	-66.96	-66.97	-70.40	-70.72	-61.14	-62.55	-66.89	-67.07	-69.09	-70.56
63000.0	-64.10	-67.23	-68.60	-68.23	-68.01	-67.68	-64.87	-68.50	-70.67	-70.81	-70.11	-69.36
64000.0	-62.20	-71.70	-67.98	-71.51	-70.11	-70.01	-62.46	-73.25	-67.90	-71.37	-71.66	-69.95
65000.0	-66.50	-65.01	-60.72	-69.13	-69.65	-69.81	-66.07	-67.09	-60.79	-69.06	-69.82	-69.81



Frequency Mixer SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	IM3_L(I)			IM3_L(Q)			IM3_H(I)			IM3_H(Q)		
	IF = 3000MHz											
	@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19
20000.0	-64.65	-65.64	-67.70	-68.74	-68.89	-69.77	-64.79	-66.36	-67.35	-68.33	-68.50	-69.32
21000.0	-65.53	-66.31	-67.50	-69.37	-69.73	-69.89	-65.45	-66.29	-67.27	-69.07	-69.43	-70.27
22000.0	-64.86	-65.40	-65.78	-67.07	-67.13	-67.84	-64.81	-65.66	-66.21	-66.82	-67.50	-68.21
23000.0	-67.22	-66.91	-66.83	-68.24	-68.23	-68.51	-67.02	-67.25	-66.55	-68.33	-68.11	-68.90
24000.0	-71.01	-71.92	-71.98	-73.79	-73.53	-71.71	-71.40	-73.13	-72.67	-75.11	-73.83	-71.48
25000.0	-71.99	-72.98	-73.13	-77.61	-78.20	-79.68	-71.13	-73.16	-73.43	-76.55	-77.96	-78.29
26000.0	-73.14	-73.16	-73.10	-74.23	-75.11	-75.97	-73.40	-73.81	-73.51	-74.92	-75.04	-77.68
27000.0	-75.39	-74.60	-76.03	-74.72	-75.09	-74.81	-75.34	-73.49	-74.74	-74.17	-75.13	-74.87
28000.0	-74.25	-74.61	-75.70	-72.76	-74.01	-76.76	-73.26	-73.96	-74.48	-72.81	-75.06	-76.81
29000.0	-74.10	-74.43	-75.63	-73.59	-72.16	-73.59	-73.84	-73.07	-75.66	-72.46	-72.44	-73.25
30000.0	-73.48	-74.58	-75.03	-72.30	-71.75	-72.97	-73.21	-75.14	-75.48	-73.23	-72.43	-73.14
31000.0	-74.43	-75.26	-74.10	-71.05	-71.21	-71.85	-73.89	-75.49	-74.20	-71.52	-71.31	-71.62
32000.0	-77.96	-75.54	-74.09	-71.42	-71.18	-70.71	-75.02	-74.88	-75.26	-72.24	-70.47	-71.24
33000.0	-78.50	-77.75	-74.51	-84.54	-85.67	-78.49	-77.80	-77.13	-75.92	-85.60	-81.24	-78.50
34000.0	-74.48	-73.66	-72.52	-73.17	-74.18	-72.80	-76.88	-73.45	-71.81	-73.86	-73.73	-72.44
35000.0	-70.26	-69.47	-70.19	-70.66	-70.96	-70.48	-70.65	-70.31	-69.98	-70.37	-71.23	-70.32
36000.0	-69.10	-69.71	-69.64	-70.02	-69.92	-69.17	-69.22	-69.75	-70.18	-70.30	-70.22	-69.28
37000.0	-71.63	-70.14	-69.64	-69.57	-70.89	-71.29	-71.51	-69.94	-69.17	-69.81	-71.29	-70.91
38000.0	-70.69	-68.68	-68.76	-69.84	-69.58	-68.74	-69.83	-68.28	-67.67	-68.59	-69.96	-69.27
39000.0	-68.00	-67.03	-66.08	-67.03	-68.12	-67.68	-67.84	-66.98	-66.17	-66.85	-68.29	-67.85
40000.0	-67.96	-67.33	-66.47	-69.29	-69.35	-69.17	-68.09	-67.47	-66.82	-69.18	-69.57	-69.35
41000.0	-68.74	-70.40	-69.02	-69.47	-71.07	-70.64	-68.81	-69.52	-69.09	-69.72	-70.23	-71.09
42000.0	-68.16	-68.68	-68.95	-67.32	-69.42	-68.98	-67.92	-68.98	-68.70	-67.45	-68.72	-69.36
43000.0	-69.26	-69.63	-70.21	-69.40	-69.99	-69.79	-69.87	-71.09	-71.01	-69.48	-70.73	-71.31
44000.0	-69.18	-72.21	-72.74	-70.01	-71.30	-71.67	-69.85	-71.76	-72.32	-69.89	-70.97	-72.01
45000.0	-72.71	-73.36	-74.42	-73.83	-73.18	-71.62	-72.28	-74.47	-74.21	-72.89	-73.36	-73.00
46000.0	-65.99	-68.67	-70.77	-69.79	-72.21	-72.01	-65.95	-70.43	-70.80	-68.92	-72.72	-72.87
47000.0	-59.90	-66.84	-67.71	-65.71	-68.24	-69.40	-59.01	-65.97	-67.88	-65.19	-68.07	-68.75
48000.0	-69.02	-68.66	-68.96	-68.83	-68.71	-68.75	-68.24	-68.73	-68.46	-68.43	-68.08	-68.16
49000.0	-66.58	-66.95	-67.42	-67.63	-68.05	-68.43	-66.25	-66.71	-66.42	-67.92	-67.86	-67.45
50000.0	-70.57	-71.56	-70.72	-69.73	-70.43	-70.01	-69.85	-70.25	-70.02	-69.12	-69.69	-70.08
51000.0	-71.70	-71.92	-70.89	-72.87	-73.12	-72.36	-70.19	-69.53	-68.94	-71.11	-70.80	-69.52
52000.0	-73.13	-71.56	-72.46	-71.81	-71.36	-70.63	-74.08	-72.30	-70.99	-72.50	-71.36	-70.19
53000.0	-76.70	-74.52	-73.55	-85.86	-77.71	-76.74	-75.14	-73.13	-71.81	-79.72	-77.03	-74.94
54000.0	-69.32	-68.14	-66.88	-72.12	-71.44	-69.97	-68.95	-67.93	-67.33	-72.47	-72.19	-71.23
55000.0	-66.68	-65.96	-65.52	-68.52	-68.04	-69.43	-66.13	-65.63	-65.02	-67.48	-67.45	-68.44
56000.0	-65.21	-67.03	-67.52	-68.07	-68.27	-68.26	-65.59	-67.70	-67.91	-68.19	-69.57	-68.75
57000.0	-62.68	-68.16	-69.20	-68.67	-68.59	-69.50	-62.14	-66.78	-69.30	-67.50	-68.94	-69.91
58000.0	-69.99	-69.39	-69.36	-69.49	-68.10	-67.37	-70.04	-69.73	-68.90	-69.24	-68.06	-67.56
59000.0	-66.36	-68.14	-68.22	-68.43	-68.05	-67.46	-65.50	-67.47	-67.94	-68.00	-67.60	-67.13
60000.0	-53.21	-54.58	-56.03	-60.28	-63.22	-64.53	-53.47	-54.76	-56.02	-60.82	-62.67	-64.76
61000.0	-58.07	-59.95	-63.73	-65.88	-67.92	-67.75	-57.83	-60.18	-63.79	-65.51	-67.93	-67.89
62000.0	-62.58	-66.07	-69.12	-70.16	-69.30	-68.32	-62.86	-66.57	-69.43	-71.07	-70.03	-68.80
63000.0	-61.19	-68.22	-65.89	-68.51	-67.76	-67.32	-61.31	-70.14	-66.10	-70.82	-70.25	-68.18
64000.0	-64.53	-65.67	-60.97	-70.88	-71.53	-70.48	-66.38	-66.60	-61.90	-71.37	-71.56	-71.46



Frequency Mixer SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	Inp_IP3_L(I)			Inp_IP3_L(Q)			Inp_IP3_H(I)			Inp_IP3_H(Q)		
	IF = 200MHz											
	@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19
20000.0	26.72	25.21	24.35	21.28	22.83	23.53	26.58	25.01	24.30	21.35	22.78	23.55
21000.0	25.55	25.51	25.25	27.27	27.43	26.69	25.50	25.56	25.21	27.25	27.15	27.01
22000.0	26.80	26.83	26.73	27.38	26.50	26.59	26.75	26.68	26.68	27.21	26.78	26.74
23000.0	25.16	25.21	25.49	25.44	25.39	25.35	25.29	25.31	25.38	25.46	25.48	25.20
24000.0	26.88	26.98	26.91	25.88	26.09	25.87	26.88	27.10	27.29	26.19	26.45	26.03
25000.0	28.01	29.28	29.68	30.11	29.77	29.16	27.68	28.93	28.74	29.39	29.29	28.83
26000.0	27.15	28.01	28.41	29.04	29.02	29.36	27.65	28.09	29.19	29.00	29.41	30.33
27000.0	27.84	28.34	28.22	30.43	30.18	30.33	27.51	27.89	27.99	30.00	30.07	29.81
28000.0	29.05	29.41	28.37	29.38	30.18	29.52	28.49	29.20	28.62	28.89	30.12	29.97
29000.0	28.73	29.50	30.16	28.13	29.05	29.64	28.33	29.48	30.04	28.06	28.83	29.44
30000.0	29.34	30.70	31.97	28.07	29.79	31.32	29.62	30.70	32.47	27.91	29.38	32.04
31000.0	27.77	28.05	29.55	26.54	27.37	28.65	28.33	28.70	30.20	27.00	27.55	29.62
32000.0	26.22	26.14	27.02	26.25	25.85	26.06	25.93	26.02	27.06	26.37	25.87	26.02
33000.0	25.31	25.61	25.53	24.65	25.03	25.43	25.30	25.27	25.36	24.55	25.03	25.15
34000.0	28.08	27.68	27.33	27.26	26.86	26.58	28.44	27.75	27.35	27.33	27.31	26.58
35000.0	24.68	24.80	24.70	24.49	24.24	24.32	24.56	24.92	24.76	24.75	24.46	24.32
36000.0	23.72	23.95	24.20	25.61	24.85	24.27	23.78	23.96	24.24	25.48	24.97	24.59
37000.0	24.23	24.27	24.57	25.57	25.39	25.22	24.18	24.20	24.56	25.42	25.44	25.22
38000.0	24.55	24.48	24.98	24.79	24.93	24.65	24.32	24.44	24.75	24.77	24.77	24.42
39000.0	23.65	23.69	24.28	24.57	24.74	24.42	23.84	23.89	24.32	24.79	24.87	24.57
40000.0	24.59	24.16	23.69	23.81	24.63	24.73	24.94	24.18	23.62	23.83	24.90	24.62
41000.0	24.99	24.15	23.83	25.45	25.35	24.74	25.02	24.02	24.08	25.18	25.59	24.95
42000.0	25.44	25.23	24.80	26.09	26.18	25.76	25.69	25.21	24.65	26.01	25.88	26.31
43000.0	25.63	25.53	25.47	24.99	25.29	25.49	26.25	26.16	25.47	25.64	25.73	26.25
44000.0	25.71	26.40	26.23	26.09	27.20	28.02	25.71	26.57	26.49	26.34	26.78	28.26
45000.0	26.34	26.99	27.35	26.48	26.88	27.35	26.59	27.32	26.94	26.72	26.63	28.34
46000.0	25.42	26.04	26.21	26.00	26.47	26.64	25.88	26.51	26.63	26.23	26.45	27.39
47000.0	23.54	24.47	24.67	24.24	24.78	24.87	23.52	24.37	24.67	24.58	25.19	25.03
48000.0	24.08	24.40	24.43	24.37	24.61	24.72	23.81	23.91	24.29	24.11	24.18	24.35
49000.0	21.75	24.00	24.43	23.46	23.83	24.39	21.46	23.69	24.35	22.86	23.47	23.91
50000.0	21.19	24.13	24.94	24.61	25.50	25.83	20.88	23.30	24.49	23.37	24.54	25.24
51000.0	24.35	24.41	24.38	25.53	25.39	25.04	23.61	23.69	23.75	24.81	24.52	24.13
52000.0	23.22	23.76	24.09	24.23	24.21	24.50	23.43	23.99	24.03	24.12	24.34	24.37
53000.0	23.50	25.04	25.45	25.33	25.07	25.16	23.13	24.37	24.77	24.56	24.92	24.75
54000.0	26.73	26.84	26.28	26.61	26.09	25.30	25.88	27.08	25.75	26.33	26.08	25.63
55000.0	24.57	24.11	23.74	25.07	24.82	24.84	24.00	23.82	23.62	24.80	24.36	24.27
56000.0	23.79	23.44	23.23	23.77	23.57	23.42	24.21	23.66	23.52	24.06	23.70	23.43
57000.0	25.29	25.01	24.74	24.58	24.34	24.16	25.01	24.96	24.89	25.04	24.56	24.50
58000.0	25.11	24.66	24.36	24.05	23.74	24.31	24.81	24.77	24.16	24.00	23.90	24.61
59000.0	21.64	24.11	24.62	24.76	25.31	25.10	21.48	23.60	24.59	24.45	24.77	24.68
60000.0	23.51	24.79	24.89	24.08	24.10	24.20	23.93	24.92	25.17	23.94	24.15	24.24
61000.0	25.96	25.64	25.22	24.99	24.65	23.61	26.07	25.61	24.85	24.85	24.54	24.00
62000.0	25.54	26.32	27.16	25.80	25.83	25.92	25.57	26.80	27.37	25.80	26.64	26.52
63000.0	21.31	20.76	20.43	21.13	22.47	23.24	21.45	20.97	20.60	21.54	22.99	23.93
64000.0	23.02	24.07	25.77	26.18	26.90	27.07	22.71	24.62	26.07	25.74	26.51	26.60
65000.0	23.00	24.33	24.68	25.51	24.90	24.35	22.89	24.53	24.83	26.08	25.09	24.29



Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	Inp_IP3_L(I)			Inp_IP3_L(Q)			Inp_IP3_H(I)			Inp_IP3_H(Q)		
	IF = 2000MHz											
	@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19
20000.0	22.67	23.03	23.19	24.43	24.54	24.63	22.59	22.85	23.12	24.28	24.64	24.41
21000.0	23.49	23.93	24.56	25.43	25.27	25.68	23.63	24.02	24.68	25.51	25.39	25.32
22000.0	22.99	23.17	23.70	24.26	24.41	24.67	22.85	23.21	23.55	24.31	24.30	24.64
23000.0	23.59	23.98	24.39	24.07	24.19	24.64	23.59	24.07	24.44	23.98	24.18	24.54
24000.0	25.43	25.15	25.16	26.10	25.78	26.54	25.30	25.44	25.24	26.07	26.16	26.53
25000.0	27.05	27.39	26.99	27.73	27.97	26.72	26.72	27.32	26.89	27.84	27.24	26.59
26000.0	26.15	26.74	26.16	27.52	28.53	28.42	26.62	26.95	26.67	28.95	29.61	28.15
27000.0	27.60	27.96	27.88	28.29	28.80	29.88	28.23	27.98	27.86	27.28	28.20	28.89
28000.0	28.11	28.07	28.32	26.69	26.98	27.68	28.14	28.17	28.42	26.59	27.51	27.85
29000.0	26.69	27.45	28.22	26.85	27.28	28.13	26.81	26.81	28.06	26.18	26.49	27.95
30000.0	26.96	27.01	28.27	26.52	26.05	27.11	27.54	27.66	28.61	26.49	26.10	26.66
31000.0	26.76	27.95	27.98	26.17	26.12	25.76	27.42	27.53	28.57	26.45	26.13	25.97
32000.0	26.03	26.39	26.76	24.43	25.03	24.98	26.08	26.58	27.14	24.59	24.62	24.96
33000.0	28.92	27.38	27.38	26.91	26.58	27.29	28.92	27.91	27.50	26.63	26.65	26.40
34000.0	26.18	26.61	26.43	27.98	27.44	27.18	26.31	26.71	26.41	29.06	26.86	26.99
35000.0	24.67	24.83	24.74	25.39	25.51	24.93	24.86	24.63	24.78	25.26	25.39	25.11
36000.0	24.76	24.89	25.13	25.35	25.17	25.10	24.70	24.81	25.10	25.28	25.30	25.11
37000.0	24.84	24.92	25.05	25.31	25.11	24.74	24.83	24.70	24.94	25.29	25.00	24.57
38000.0	25.84	25.30	24.90	24.43	25.35	25.24	25.36	25.11	24.79	24.46	25.39	25.35
39000.0	25.03	24.05	24.02	24.26	24.76	24.58	25.16	24.33	23.79	24.34	24.93	24.76
40000.0	24.09	23.74	23.13	24.30	24.78	24.68	24.23	24.04	23.40	24.47	24.75	24.47
41000.0	24.86	24.63	24.27	25.41	25.62	24.92	24.67	24.38	24.31	25.10	25.71	25.50
42000.0	24.56	24.74	24.87	24.03	25.28	24.97	24.49	24.66	24.61	24.23	25.14	25.03
43000.0	24.52	25.21	25.18	24.45	25.53	25.45	25.03	25.58	25.80	24.61	26.13	26.30
44000.0	25.91	27.17	27.29	25.19	26.43	26.26	26.06	26.52	27.09	25.30	26.02	26.17
45000.0	24.97	26.35	26.50	25.09	26.23	26.42	25.05	26.09	26.83	25.36	26.65	26.50
46000.0	25.95	26.59	27.01	26.47	26.26	26.26	25.94	27.20	26.87	26.22	26.82	26.34
47000.0	22.72	24.38	24.79	23.61	24.57	25.17	22.69	24.47	24.92	23.58	24.46	24.59
48000.0	20.12	23.92	24.35	22.27	23.98	24.53	19.77	23.50	24.18	21.72	23.50	24.18
49000.0	23.26	23.36	23.40	23.90	23.86	23.73	23.19	22.99	23.25	23.55	23.61	23.32
50000.0	24.10	24.11	24.53	24.60	24.95	24.75	23.72	23.86	24.07	24.33	24.23	24.18
51000.0	24.88	25.53	25.99	24.97	25.90	25.86	24.35	24.72	24.80	24.30	25.03	24.86
52000.0	25.78	25.44	25.41	25.96	25.75	25.42	25.47	24.95	25.03	25.50	25.47	24.91
53000.0	27.23	27.11	26.27	27.29	26.16	25.82	26.49	25.93	25.60	26.55	25.39	25.22
54000.0	24.52	24.15	24.06	25.86	25.67	25.31	24.65	24.37	24.05	26.02	25.83	25.49
55000.0	23.96	23.91	23.42	24.75	24.41	24.41	23.56	23.24	23.23	24.70	24.16	23.83
56000.0	23.43	23.07	22.65	23.84	23.58	24.06	23.62	23.18	22.87	23.74	23.88	24.56
57000.0	24.59	25.43	25.15	25.31	25.39	25.58	24.42	25.29	25.00	25.18	25.42	25.18
58000.0	21.93	24.24	25.23	24.89	25.23	25.27	21.76	24.08	24.85	24.24	24.84	25.14
59000.0	25.18	24.77	24.39	24.31	23.68	23.34	24.69	24.79	24.41	23.86	23.35	23.04
60000.0	23.71	24.23	24.38	23.22	23.52	23.27	23.53	24.55	24.78	23.56	23.49	23.42
61000.0	17.35	17.88	18.48	20.97	22.28	22.70	17.23	17.83	18.50	21.01	22.17	22.72
62000.0	20.66	21.30	23.48	23.49	25.20	25.36	20.57	21.27	23.45	23.54	24.55	25.28
63000.0	22.05	23.62	24.30	24.12	24.01	23.84	22.43	24.25	25.34	25.41	25.05	24.68
64000.0	21.10	25.85	23.99	25.76	25.06	25.01	21.23	26.62	23.95	25.69	25.83	24.98
65000.0	23.25	22.50	20.36	24.56	24.82	24.91	23.03	23.54	20.39	24.53	24.91	24.90



Frequency Mixer

SMIQ-653H-D+

Typical Performance Data

RF (IN) (MHz)	Inp_IP3_L(I)			Inp_IP3_L(Q)			Inp_IP3_H(I)			Inp_IP3_H(Q)		
	IF = 3000MHz											
	@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19
20000.0	22.33	22.82	23.85	24.37	24.45	24.89	22.39	23.18	23.68	24.17	24.25	24.66
21000.0	22.76	23.15	23.75	24.69	24.87	24.95	22.72	23.14	23.63	24.54	24.72	25.14
22000.0	22.43	22.70	22.89	23.53	23.57	23.92	22.41	22.83	23.10	23.41	23.75	24.10
23000.0	23.61	23.46	23.41	24.12	24.12	24.26	23.51	23.63	23.28	24.16	24.06	24.45
24000.0	25.50	25.96	25.99	26.90	26.77	25.86	25.70	26.57	26.34	27.56	26.92	25.74
25000.0	26.00	26.49	26.57	28.81	29.10	29.84	25.57	26.58	26.71	28.28	28.98	29.14
26000.0	26.57	26.58	26.55	27.12	27.55	27.99	26.70	26.90	26.75	27.46	27.52	28.84
27000.0	27.69	27.30	28.01	27.36	27.55	27.40	27.67	26.74	27.37	27.08	27.56	27.43
28000.0	27.12	27.30	27.85	26.38	27.00	28.38	26.63	26.98	27.24	26.41	27.53	28.41
29000.0	27.05	27.21	27.82	26.79	26.08	26.79	26.92	26.54	27.83	26.23	26.22	26.62
30000.0	26.74	27.29	27.51	26.15	25.87	26.48	26.61	27.57	27.74	26.62	26.21	26.57
31000.0	27.22	27.63	27.05	25.53	25.60	25.92	26.94	27.75	27.10	25.76	25.65	25.81
32000.0	28.98	27.77	27.05	25.71	25.59	25.36	27.51	27.44	27.63	26.12	25.24	25.62
33000.0	29.25	28.87	27.26	32.27	32.84	29.24	28.90	28.57	27.96	32.80	30.62	29.25
34000.0	27.24	26.83	26.26	26.58	27.09	26.40	28.44	26.73	25.90	26.93	26.87	26.22
35000.0	25.63	25.16	24.81	25.10	26.26	25.18	25.40	25.13	24.79	25.40	26.02	25.73
36000.0	25.06	24.73	24.94	24.43	24.93	24.39	25.33	24.93	24.96	24.38	25.09	24.24
37000.0	25.73	25.31	24.76	23.57	25.82	25.69	25.20	24.71	24.60	23.23	25.53	25.16
38000.0	25.87	24.67	25.42	24.91	25.62	24.38	25.75	24.68	25.22	25.00	25.32	24.47
39000.0	24.20	24.24	23.61	23.25	24.51	24.41	24.11	24.02	23.76	23.29	24.60	24.40
40000.0	24.10	23.82	23.10	24.24	24.99	24.38	24.11	24.01	23.18	24.29	24.94	24.49
41000.0	23.59	24.10	23.94	23.53	25.08	24.76	23.72	24.18	23.61	23.76	24.99	24.98
42000.0	24.82	25.12	24.54	24.40	25.10	24.25	24.79	25.24	24.83	24.64	25.39	24.45
43000.0	24.63	24.82	25.10	24.70	25.00	24.90	24.93	25.54	25.50	24.74	25.36	25.66
44000.0	24.59	26.11	26.37	25.01	25.65	25.83	24.92	25.88	26.16	24.95	25.48	26.01
45000.0	26.35	26.68	27.21	26.92	26.59	25.81	26.14	27.23	27.10	26.44	26.68	26.50
46000.0	23.00	24.33	25.38	24.90	26.11	26.01	22.98	25.22	25.40	24.46	26.36	26.44
47000.0	19.95	23.42	23.85	22.85	24.12	24.70	19.51	22.99	23.94	22.59	24.04	24.37
48000.0	24.51	24.33	24.48	24.41	24.35	24.37	24.12	24.36	24.23	24.21	24.04	24.08
49000.0	23.29	23.48	23.71	23.81	24.03	24.21	23.13	23.36	23.21	23.96	23.93	23.73
50000.0	25.28	25.78	25.36	24.86	25.22	25.01	24.93	25.13	25.01	24.56	24.85	25.04
51000.0	25.85	25.96	25.45	26.43	26.56	26.18	25.10	24.77	24.47	25.55	25.40	24.76
52000.0	26.57	25.78	26.23	25.91	25.68	25.31	27.04	26.15	25.50	26.25	25.68	25.09
53000.0	28.35	27.26	26.78	32.93	28.85	28.37	27.57	26.57	25.91	29.86	28.51	27.47
54000.0	24.66	24.07	23.44	26.06	25.72	24.98	24.47	23.96	23.66	26.24	26.09	25.62
55000.0	23.34	22.98	22.76	24.26	24.02	24.71	23.06	22.82	22.51	23.74	23.72	24.22
56000.0	22.61	23.51	23.76	24.03	24.13	24.13	22.80	23.85	23.96	24.10	24.78	24.38
57000.0	21.34	24.08	24.60	24.33	24.30	24.75	21.07	23.39	24.65	23.75	24.47	24.96
58000.0	24.99	24.70	24.68	24.75	24.05	23.69	25.02	24.86	24.45	24.62	24.03	23.78
59000.0	23.18	24.07	24.11	24.22	24.03	23.73	22.75	23.74	23.97	24.00	23.80	23.57
60000.0	16.60	17.29	18.01	20.14	21.61	22.26	16.73	17.38	18.01	20.41	21.34	22.38
61000.0	19.03	19.97	21.86	22.94	23.96	23.87	18.92	20.09	21.89	22.75	23.96	23.94
62000.0	21.29	23.03	24.56	25.08	24.65	24.16	21.43	23.29	24.71	25.53	25.01	24.40
63000.0	20.60	24.11	22.94	24.26	23.88	23.66	20.65	25.07	23.05	25.41	25.12	24.09
64000.0	22.26	22.83	20.48	25.44	25.77	25.24	23.19	23.30	20.95	25.68	25.78	25.73

