

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25 °C

RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 200 MHz			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 200 MHz			RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 1 GHz			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 1 GHz		
		@LO (dBm)			@LO (dBm)					@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19			+17	+18	+19	+17	+18	+19
10.0	10.2	7.77	7.67	7.58	7.73	7.63	7.53	5.0	6.0	7.81	7.80	7.79	7.82	7.81	7.81
10.5	10.7	7.53	7.48	7.43	7.51	7.46	7.41	5.2	6.2	7.70	7.70	7.70	7.74	7.74	7.75
11.0	11.2	7.34	7.29	7.26	7.38	7.34	7.32	5.4	6.4	7.58	7.59	7.61	7.71	7.73	7.76
11.5	11.7	6.89	6.86	6.86	6.95	6.93	6.93	5.6	6.6	7.24	7.25	7.28	7.36	7.40	7.45
12.0	12.2	7.04	7.03	7.03	7.16	7.16	7.18	5.8	6.8	7.43	7.42	7.44	7.51	7.55	7.61
12.5	12.7	7.03	7.01	7.02	7.14	7.15	7.18	6.0	7.0	7.60	7.51	7.47	7.53	7.52	7.55
13.0	13.2	7.17	7.11	7.08	7.21	7.20	7.22	6.2	7.2	7.83	7.74	7.69	7.78	7.75	7.77
13.5	13.7	7.06	6.98	6.94	7.05	7.03	7.04	6.4	7.4	7.65	7.57	7.51	7.67	7.62	7.62
14.0	14.2	7.17	7.09	7.03	7.19	7.16	7.17	6.6	7.6	7.63	7.59	7.57	7.77	7.78	7.81
14.5	14.7	7.34	7.29	7.26	7.46	7.46	7.50	6.8	7.8	7.68	7.62	7.60	7.78	7.80	7.85
15.0	15.2	8.11	8.03	7.99	8.24	8.23	8.27	7.0	8.0	8.71	8.58	8.47	8.73	8.67	8.64
15.5	15.7	7.79	7.66	7.56	7.87	7.82	7.82	7.2	8.2	8.36	8.25	8.17	8.41	8.38	8.37
16.0	16.2	8.27	8.15	8.06	8.39	8.33	8.31	7.4	8.4	8.75	8.62	8.53	8.75	8.70	8.69
16.5	16.7	7.44	7.32	7.24	7.51	7.48	7.49	7.6	8.6	7.93	7.83	7.77	7.94	7.91	7.90
17.0	17.2	7.57	7.46	7.39	7.66	7.62	7.62	7.8	8.8	7.97	7.89	7.84	8.00	7.99	8.00
17.5	17.7	7.41	7.32	7.27	7.49	7.46	7.48	8.0	9.0	7.81	7.71	7.66	7.88	7.86	7.87
18.0	18.2	6.97	6.88	6.83	7.03	7.02	7.04	8.2	9.2	7.39	7.30	7.24	7.48	7.46	7.47
18.5	18.7	6.86	6.77	6.73	6.87	6.87	6.90	8.4	9.4	7.27	7.21	7.18	7.30	7.30	7.33
19.0	19.2	6.82	6.75	6.71	6.87	6.86	6.89	8.6	9.6	7.30	7.21	7.18	7.26	7.27	7.29
19.5	19.7	6.77	6.70	6.68	6.85	6.85	6.88	8.8	9.8	7.27	7.22	7.20	7.24	7.25	7.29
20.0	20.2	6.71	6.63	6.60	6.72	6.73	6.76	9.0	10.0	7.14	7.11	7.11	7.24	7.25	7.29
20.5	20.7	6.62	6.59	6.60	6.64	6.68	6.75	9.2	10.2	7.00	7.02	7.05	7.17	7.23	7.30
21.0	21.2	6.90	6.89	6.92	6.91	6.98	7.07	9.4	10.4	7.20	7.23	7.28	7.29	7.38	7.49
21.5	21.7	7.24	7.22	7.23	7.28	7.34	7.41	9.5	10.5	7.51	7.51	7.54	7.49	7.55	7.64
22.0	22.2	7.65	7.62	7.61	7.74	7.78	7.83	9.6	10.6	7.98	7.96	7.97	8.04	8.05	8.10
22.5	22.7	7.73	7.68	7.66	7.82	7.81	7.84	9.8	10.8	8.09	8.04	8.02	8.17	8.16	8.18
23.0	23.2	7.50	7.41	7.37	7.54	7.49	7.49	10.0	11.0	7.99	7.89	7.84	7.99	7.93	7.92
23.5	23.7	7.45	7.36	7.31	7.47	7.43	7.42	10.2	11.2	7.98	7.91	7.87	7.96	7.92	7.92
24.0	24.2	7.34	7.26	7.21	7.35	7.30	7.30	10.4	11.4	7.83	7.77	7.75	7.82	7.79	7.79
24.5	24.7	8.03	7.96	7.92	8.02	7.98	7.98	10.6	11.6	8.49	8.45	8.45	8.46	8.45	8.48
25.0	25.2	8.03	7.97	7.94	8.01	7.98	7.99	10.8	11.8	8.43	8.40	8.42	8.43	8.43	8.49
25.5	25.7	7.85	7.79	7.78	7.85	7.83	7.85	11.0	12.0	8.19	8.17	8.19	8.21	8.23	8.30
26.0	26.2	7.54	7.50	7.51	7.58	7.58	7.62	11.2	12.2	7.99	7.96	7.98	7.99	8.00	8.06
26.5	26.7	7.44	7.41	7.42	7.48	7.48	7.54	11.4	12.4	7.97	7.95	7.96	7.99	7.99	8.04
27.0	27.2	7.53	7.49	7.50	7.58	7.58	7.64	11.6	12.6	8.05	8.05	8.08	8.10	8.12	8.17
27.5	27.7	7.29	7.27	7.31	7.35	7.38	7.45	11.8	12.8	7.83	7.85	7.91	7.88	7.92	7.99
28.0	28.2	7.20	7.21	7.25	7.27	7.31	7.38	12.0	13.0	7.78	7.82	7.89	7.80	7.85	7.94
28.5	28.7	7.10	7.14	7.20	7.16	7.22	7.31	12.2	13.2	7.70	7.76	7.85	7.72	7.78	7.87
29.0	29.2	7.25	7.30	7.37	7.32	7.38	7.47	12.4	13.4	7.86	7.92	7.98	7.87	7.92	7.98
29.5	29.7	7.49	7.54	7.60	7.57	7.62	7.69	12.6	13.6	8.06	8.09	8.13	8.06	8.09	8.13
30.0	30.2	7.80	7.86	7.92	7.89	7.95	8.01	12.8	13.8	8.23	8.26	8.30	8.27	8.27	8.29

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25 °C

RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 2 GHz			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 2 GHz			RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 3 GHz			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 3 GHz		
		@LO (dBm)			@LO (dBm)					@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19			+17	+18	+19	+17	+18	+19
10.0	10.2	7.84	7.90	7.96	8.33	8.40	8.45	10.0	10.2	8.01	8.07	8.15	8.72	8.80	8.89
10.5	10.7	7.74	7.78	7.84	8.16	8.23	8.30	10.5	10.7	7.95	7.94	7.97	8.51	8.57	8.66
11.0	11.2	7.69	7.72	7.77	8.12	8.19	8.27	11.0	11.2	8.24	8.15	8.11	8.59	8.56	8.59
11.5	11.7	7.47	7.43	7.44	7.76	7.81	7.89	11.5	11.7	8.13	8.06	8.02	8.42	8.39	8.40
12.0	12.2	7.88	7.81	7.77	8.10	8.10	8.14	12.0	12.2	8.42	8.36	8.32	8.78	8.75	8.75
12.5	12.7	8.06	7.99	7.95	8.28	8.24	8.25	12.5	12.7	8.47	8.42	8.40	8.81	8.81	8.85
13.0	13.2	8.16	8.12	8.11	8.53	8.53	8.55	13.0	13.2	8.48	8.42	8.41	8.83	8.83	8.87
13.5	13.7	7.82	7.78	7.78	8.17	8.19	8.27	13.5	13.7	8.23	8.16	8.12	8.58	8.57	8.60
14.0	14.2	7.79	7.71	7.69	8.10	8.10	8.15	14.0	14.2	8.33	8.28	8.27	8.65	8.64	8.68
14.5	14.7	8.07	8.00	7.97	8.34	8.33	8.38	14.5	14.7	8.46	8.41	8.40	8.78	8.78	8.83
15.0	15.2	8.92	8.84	8.81	9.22	9.20	9.24	15.0	15.2	9.33	9.27	9.24	9.70	9.67	9.70
15.5	15.7	8.56	8.48	8.45	8.88	8.85	8.89	15.5	15.7	8.92	8.85	8.82	9.38	9.36	9.39
16.0	16.2	8.89	8.83	8.81	9.26	9.25	9.30	16.0	16.2	9.21	9.12	9.08	9.74	9.71	9.73
16.5	16.7	8.08	8.01	7.98	8.42	8.41	8.47	16.5	16.7	8.37	8.30	8.27	9.01	8.99	9.01
17.0	17.2	8.13	8.05	8.02	8.54	8.53	8.56	17.0	17.2	8.49	8.42	8.38	9.12	9.09	9.09
17.5	17.7	7.97	7.91	7.89	8.43	8.42	8.46	17.5	17.7	8.35	8.31	8.29	9.01	8.98	9.00
18.0	18.2	7.57	7.51	7.49	8.05	8.04	8.06	18.0	18.2	8.02	8.01	8.03	8.75	8.73	8.75
18.5	18.7	7.44	7.42	7.43	7.96	7.97	8.01	18.5	18.7	7.89	7.94	8.00	8.65	8.70	8.77
19.0	19.2	7.52	7.52	7.54	8.00	8.00	8.04	19.0	19.2	7.73	7.78	7.86	8.43	8.50	8.61
19.5	19.7	7.50	7.53	7.58	8.04	8.09	8.15	19.5	19.7	7.67	7.71	7.78	8.29	8.38	8.50
20.0	20.2	7.20	7.23	7.30	7.76	7.84	7.96	20.0	20.2	7.49	7.52	7.58	8.02	8.11	8.24
20.5	20.7	7.07	7.10	7.17	7.52	7.61	7.74	20.5	20.7	7.43	7.47	7.53	7.88	7.95	8.07
21.0	21.2	7.32	7.36	7.43	7.65	7.73	7.87	21.0	21.2	7.68	7.69	7.75	8.06	8.11	8.21
21.5	21.7	7.61	7.63	7.69	7.96	8.02	8.12	21.5	21.7	8.10	8.11	8.15	8.50	8.53	8.64
22.0	22.2	8.13	8.10	8.11	8.50	8.50	8.55	22.0	22.2	8.78	8.77	8.79	9.24	9.24	9.30
22.5	22.7	8.47	8.43	8.43	8.85	8.83	8.88	22.5	22.7	9.07	9.08	9.12	9.55	9.57	9.65
23.0	23.2	8.41	8.37	8.37	8.71	8.69	8.73	23.0	23.2	8.81	8.84	8.91	9.24	9.29	9.40
23.5	23.7	8.40	8.39	8.43	8.66	8.68	8.75	23.5	23.7	8.69	8.73	8.81	9.09	9.15	9.27
24.0	24.2	8.12	8.15	8.22	8.40	8.46	8.58	24.0	24.2	8.40	8.44	8.53	8.82	8.88	9.01
24.5	24.7	8.65	8.68	8.75	8.91	8.98	9.09	24.5	24.7	9.02	9.03	9.08	9.35	9.38	9.46
25.0	25.2	8.66	8.68	8.74	8.92	8.97	9.09	25.0	25.2	9.17	9.17	9.20	9.50	9.50	9.55
25.5	25.7	8.61	8.61	8.66	8.85	8.88	8.95	25.5	25.7	9.13	9.14	9.19	9.45	9.46	9.52
26.0	26.2	8.50	8.51	8.56	8.76	8.79	8.85	26.0	26.2	8.98	9.00	9.04	9.30	9.30	9.35
26.5	26.7	8.46	8.50	8.57	8.72	8.77	8.85	26.5	26.7	8.93	8.93	8.96	9.19	9.18	9.21
27.0	27.2	8.54	8.58	8.65	8.79	8.83	8.91	27.0	27.2	8.90	8.89	8.89	9.16	9.14	9.14
27.5	27.7	8.40	8.45	8.51	8.60	8.64	8.70	27.5	27.7	8.59	8.58	8.58	8.87	8.84	8.84
28.0	28.2	8.31	8.34	8.38	8.50	8.52	8.55	28.0	28.2	8.34	8.35	8.39	8.64	8.63	8.64
28.5	28.7	8.12	8.14	8.18	8.29	8.31	8.34	28.5	28.7	8.12	8.12	8.15	8.41	8.39	8.39
29.0	29.2	8.07	8.10	8.16	8.26	8.28	8.31	29.0	29.2	8.16	8.18	8.22	8.46	8.44	8.45
29.5	29.7	8.05	8.07	8.12	8.28	8.27	8.30	29.5	29.7	8.31	8.32	8.34	8.73	8.71	8.70
30.0	30.2	8.16	8.17	8.21	8.41	8.38	8.39	30.0	30.2	8.47	8.47	8.49	9.02	8.99	8.97

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25 °C

RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 4 GHz			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 4 GHz			RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 5 GHz			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 5 GHz		
		@LO (dBm)			@LO (dBm)					@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19			+17	+18	+19	+17	+18	+19
10.0	10.2	8.38	8.34	8.35	9.09	9.10	9.18	10.0	10.2	9.37	9.25	9.20	9.98	9.90	9.88
10.5	10.7	8.52	8.44	8.40	9.08	9.05	9.06	10.5	10.7	9.39	9.31	9.25	10.02	9.93	9.89
11.0	11.2	8.75	8.64	8.55	9.16	9.07	9.03	11.0	11.2	9.44	9.36	9.30	10.10	10.03	9.99
11.5	11.7	8.47	8.41	8.37	9.02	8.97	8.97	11.5	11.7	9.15	9.11	9.09	9.85	9.83	9.83
12.0	12.2	8.73	8.67	8.64	9.26	9.23	9.25	12.0	12.2	9.31	9.30	9.32	10.00	9.97	9.97
12.5	12.7	8.67	8.62	8.59	9.17	9.16	9.19	12.5	12.7	9.37	9.33	9.33	9.96	9.93	9.94
13.0	13.2	8.81	8.75	8.73	9.29	9.25	9.26	13.0	13.2	9.49	9.41	9.38	9.96	9.91	9.90
13.5	13.7	8.55	8.49	8.48	8.98	8.96	8.99	13.5	13.7	9.31	9.25	9.21	9.82	9.77	9.75
14.0	14.2	8.59	8.53	8.49	9.05	9.02	9.03	14.0	14.2	9.33	9.27	9.24	9.86	9.82	9.82
14.5	14.7	8.81	8.76	8.73	9.34	9.32	9.33	14.5	14.7	9.53	9.48	9.45	10.08	10.05	10.06
15.0	15.2	9.55	9.47	9.42	10.13	10.09	10.09	15.0	15.2	10.31	10.23	10.18	10.86	10.81	10.78
15.5	15.7	9.20	9.11	9.05	9.77	9.73	9.73	15.5	15.7	9.88	9.86	9.85	10.55	10.53	10.54
16.0	16.2	9.55	9.45	9.39	10.15	10.10	10.07	16.0	16.2	9.99	10.00	10.02	10.77	10.77	10.80
16.5	16.7	8.73	8.69	8.67	9.45	9.42	9.42	16.5	16.7	9.20	9.21	9.23	10.01	10.01	10.03
17.0	17.2	8.76	8.77	8.79	9.59	9.58	9.61	17.0	17.2	9.20	9.25	9.32	10.11	10.15	10.23
17.5	17.7	8.51	8.54	8.57	9.39	9.40	9.44	17.5	17.7	8.98	9.03	9.11	9.81	9.88	9.98
18.0	18.2	8.16	8.20	8.26	9.00	9.05	9.13	18.0	18.2	8.55	8.61	8.68	9.32	9.40	9.53
18.5	18.7	7.95	8.02	8.10	8.72	8.82	8.94	18.5	18.7	8.43	8.47	8.53	9.06	9.14	9.25
19.0	19.2	7.83	7.89	7.97	8.47	8.57	8.71	19.0	19.2	8.42	8.44	8.48	8.91	8.94	9.02
19.5	19.7	7.80	7.82	7.87	8.30	8.36	8.47	19.5	19.7	8.41	8.43	8.50	8.91	8.95	9.05
20.0	20.2	7.74	7.74	7.78	8.26	8.29	8.36	20.0	20.2	8.33	8.34	8.38	8.88	8.90	8.97
20.5	20.7	7.73	7.76	7.82	8.23	8.28	8.39	20.5	20.7	8.39	8.40	8.47	8.94	8.96	9.05
21.0	21.2	8.02	8.04	8.10	8.52	8.55	8.63	21.0	21.2	8.75	8.77	8.84	9.29	9.30	9.39
21.5	21.7	8.48	8.52	8.59	9.04	9.08	9.18	21.5	21.7	9.24	9.25	9.31	9.79	9.80	9.87
22.0	22.2	9.07	9.09	9.16	9.67	9.70	9.80	22.0	22.2	9.75	9.75	9.80	10.35	10.35	10.41
22.5	22.7	9.24	9.26	9.32	9.83	9.85	9.94	22.5	22.7	9.86	9.83	9.86	10.45	10.42	10.45
23.0	23.2	8.97	9.00	9.06	9.50	9.54	9.63	23.0	23.2	9.60	9.57	9.57	10.15	10.10	10.10
23.5	23.7	8.83	8.84	8.89	9.33	9.34	9.40	23.5	23.7	9.59	9.54	9.53	10.08	10.01	10.00
24.0	24.2	8.67	8.66	8.69	9.15	9.14	9.18	24.0	24.2	9.44	9.39	9.39	9.98	9.89	9.87
24.5	24.7	9.37	9.35	9.37	9.82	9.78	9.80	24.5	24.7	9.96	9.91	9.90	10.47	10.39	10.36
25.0	25.2	9.47	9.43	9.44	9.92	9.86	9.85	25.0	25.2	9.87	9.82	9.79	10.40	10.33	10.29
25.5	25.7	9.35	9.31	9.30	9.80	9.74	9.71	25.5	25.7	9.65	9.60	9.57	10.23	10.16	10.11
26.0	26.2	9.07	9.04	9.02	9.52	9.47	9.44	26.0	26.2	9.43	9.39	9.39	9.96	9.90	9.86
26.5	26.7	8.84	8.81	8.80	9.32	9.27	9.25	26.5	26.7	9.39	9.37	9.37	9.83	9.77	9.74
27.0	27.2	8.77	8.74	8.74	9.26	9.21	9.19	27.0	27.2	9.42	9.44	9.47	9.76	9.73	9.72
27.5	27.7	8.58	8.56	8.56	9.00	8.95	8.93	27.5	27.7	9.20	9.23	9.26	9.52	9.51	9.51
28.0	28.2	8.49	8.51	8.54	8.86	8.83	8.84	28.0	28.2	8.99	9.01	9.04	9.36	9.34	9.33
28.5	28.7	8.39	8.42	8.46	8.78	8.77	8.77	28.5	28.7	8.79	8.80	8.82	9.29	9.26	9.24
29.0	29.2	8.27	8.29	8.33	8.77	8.75	8.75	29.0	29.2	8.73	8.73	8.74	9.45	9.39	9.36
29.5	29.7	8.34	8.34	8.36	8.97	8.93	8.91	29.5	29.7	9.05	9.03	9.02	10.14	10.10	10.09
30.0	30.2	8.66	8.64	8.64	9.51	9.44	9.40	30.0	30.2	9.63	9.61	9.60	12.00	11.94	11.91

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25 °C

RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 6 GHz			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 6 GHz			RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 7 GHz			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 7 GHz		
		@LO (dBm)			@LO (dBm)					@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19			+17	+18	+19	+17	+18	+19
10.0	10.2	9.99	9.94	9.90	11.63	11.52	11.43	10.0	10.2	11.11	11.07	11.03	12.39	12.31	12.25
10.5	10.7	9.91	9.86	9.82	11.50	11.41	11.34	10.5	10.7	10.80	10.81	10.80	12.08	11.99	11.93
11.0	11.2	9.93	9.93	9.93	11.40	11.34	11.31	11.0	11.2	10.73	10.73	10.73	11.98	11.91	11.87
11.5	11.7	9.59	9.58	9.60	11.06	11.00	10.97	11.5	11.7	10.46	10.42	10.40	11.53	11.48	11.46
12.0	12.2	9.87	9.85	9.85	11.18	11.13	11.10	12.0	12.2	10.69	10.65	10.62	11.71	11.65	11.62
12.5	12.7	9.90	9.85	9.81	11.13	11.07	11.04	12.5	12.7	10.56	10.55	10.55	11.64	11.61	11.60
13.0	13.2	9.91	9.86	9.83	11.17	11.11	11.07	13.0	13.2	10.42	10.38	10.37	11.49	11.47	11.47
13.5	13.7	9.71	9.67	9.64	10.92	10.88	10.87	13.5	13.7	10.09	10.06	10.06	11.16	11.15	11.18
14.0	14.2	9.71	9.67	9.65	10.96	10.94	10.92	14.0	14.2	10.07	10.04	10.05	11.12	11.12	11.15
14.5	14.7	9.78	9.79	9.81	11.08	11.11	11.16	14.5	14.7	10.13	10.14	10.17	11.25	11.27	11.32
15.0	15.2	10.29	10.29	10.30	11.65	11.64	11.66	15.0	15.2	10.67	10.65	10.66	11.83	11.81	11.84
15.5	15.7	9.83	9.83	9.85	11.28	11.28	11.31	15.5	15.7	10.19	10.17	10.19	11.35	11.34	11.37
16.0	16.2	10.01	10.03	10.07	11.52	11.54	11.60	16.0	16.2	10.33	10.33	10.35	11.56	11.57	11.62
16.5	16.7	9.18	9.21	9.27	10.73	10.77	10.84	16.5	16.7	9.56	9.56	9.58	10.76	10.77	10.83
17.0	17.2	9.16	9.20	9.27	10.68	10.74	10.84	17.0	17.2	9.60	9.58	9.59	10.78	10.77	10.83
17.5	17.7	8.94	8.96	9.01	10.40	10.45	10.54	17.5	17.7	9.47	9.44	9.46	10.56	10.57	10.65
18.0	18.2	8.63	8.62	8.65	9.97	9.99	10.07	18.0	18.2	9.26	9.21	9.22	10.30	10.27	10.31
18.5	18.7	8.59	8.61	8.67	9.84	9.88	10.00	18.5	18.7	9.33	9.27	9.27	10.33	10.28	10.33
19.0	19.2	8.54	8.55	8.59	9.75	9.77	9.84	19.0	19.2	9.52	9.42	9.40	10.48	10.38	10.39
19.5	19.7	8.60	8.57	8.60	9.79	9.76	9.83	19.5	19.7	9.69	9.58	9.53	10.71	10.59	10.56
20.0	20.2	8.75	8.70	8.71	10.02	9.97	10.01	20.0	20.2	9.75	9.65	9.62	10.86	10.74	10.71
20.5	20.7	8.93	8.90	8.92	10.20	10.16	10.19	20.5	20.7	9.91	9.85	9.83	10.98	10.90	10.87
21.0	21.2	9.35	9.32	9.34	10.58	10.54	10.57	21.0	21.2	10.19	10.16	10.16	11.21	11.15	11.14
21.5	21.7	9.79	9.76	9.77	11.05	11.00	11.01	21.5	21.7	10.38	10.37	10.39	11.42	11.38	11.39
22.0	22.2	10.21	10.17	10.17	11.52	11.46	11.45	22.0	22.2	10.65	10.59	10.59	11.73	11.64	11.63
22.5	22.7	10.22	10.16	10.15	11.52	11.45	11.43	22.5	22.7	10.65	10.58	10.55	11.69	11.58	11.52
23.0	23.2	9.93	9.87	9.86	11.21	11.11	11.07	23.0	23.2	10.29	10.23	10.19	11.26	11.16	11.10
23.5	23.7	9.73	9.68	9.66	11.00	10.91	10.86	23.5	23.7	10.12	10.07	10.05	11.06	10.97	10.91
24.0	24.2	9.45	9.40	9.38	10.76	10.68	10.63	24.0	24.2	9.81	9.79	9.80	10.76	10.69	10.64
24.5	24.7	9.95	9.90	9.87	11.25	11.17	11.11	24.5	24.7	10.22	10.20	10.20	11.17	11.10	11.05
25.0	25.2	9.90	9.87	9.86	11.12	11.05	10.99	25.0	25.2	10.09	10.08	10.09	10.95	10.89	10.86
25.5	25.7	9.75	9.73	9.74	10.92	10.85	10.81	25.5	25.7	9.95	9.94	9.96	10.75	10.70	10.69
26.0	26.2	9.49	9.51	9.54	10.60	10.57	10.56	26.0	26.2	9.79	9.79	9.80	10.54	10.49	10.47
26.5	26.7	9.38	9.40	9.42	10.41	10.39	10.38	26.5	26.7	9.69	9.69	9.70	10.49	10.42	10.39
27.0	27.2	9.39	9.40	9.41	10.40	10.37	10.35	27.0	27.2	9.67	9.67	9.67	10.66	10.59	10.53
27.5	27.7	9.20	9.20	9.22	10.29	10.24	10.21	27.5	27.7	9.41	9.40	9.39	10.88	10.85	10.83
28.0	28.2	8.99	8.99	9.01	10.29	10.23	10.19	28.0	28.2	9.23	9.22	9.21	12.33	12.28	12.23
28.5	28.7	8.80	8.79	8.78	10.54	10.51	10.49	28.5	28.7	9.47	9.45	9.45	25.91	25.81	25.73
29.0	29.2	8.94	8.92	8.91	12.14	12.08	12.04	29.0	29.2	10.52	10.50	10.48	28.37	28.36	28.36
29.5	29.7	9.74	9.72	9.71	27.80	27.67	27.55	29.5	29.7	13.32	13.27	13.24	31.14	31.11	31.10
30.0	30.2	10.65	10.63	10.62	29.78	29.76	29.78	30.0	30.2	28.29	28.23	28.20	42.08	42.07	42.07

Frequency Mixer

SMIQ-134H+

Typical Performance Data

RF (GHz)	LO (GHz)	CONVERSION LOSS (I) VS. RF FREQUENCY @IF = 200 MHz @LO = +18 dBm			CONVERSION LOSS (Q) VS. RF FREQUENCY @IF = 200 MHz @LO = +18 dBm		
		@ TEMPERATURE			@ TEMPERATURE		
		-55°C	+25°C	+100°C	-55°C	+25°C	+100°C
10.0	10.2	7.29	7.59	7.83	7.21	7.54	7.78
10.5	10.7	7.06	7.43	7.69	7.02	7.41	7.69
11.0	11.2	6.87	7.30	7.62	6.91	7.34	7.68
11.5	11.7	6.39	6.88	7.28	6.43	6.94	7.36
12.0	12.2	6.50	7.02	7.47	6.62	7.15	7.60
12.5	12.7	6.44	6.98	7.42	6.57	7.11	7.56
13.0	13.2	6.47	7.05	7.47	6.56	7.15	7.58
13.5	13.7	6.29	6.95	7.41	6.28	7.00	7.52
14.0	14.2	6.39	7.09	7.58	6.40	7.17	7.73
14.5	14.7	6.73	7.31	7.87	6.85	7.48	8.10
15.0	15.2	7.54	8.03	8.45	7.70	8.22	8.69
15.5	15.7	6.99	7.60	7.99	7.17	7.78	8.20
16.0	16.2	7.72	8.09	8.37	7.81	8.26	8.61
16.5	16.7	6.74	7.24	7.60	6.86	7.41	7.81
17.0	17.2	6.92	7.41	7.85	7.03	7.56	8.06
17.5	17.7	6.77	7.27	7.66	6.87	7.41	7.84
18.0	18.2	6.27	6.86	7.29	6.38	7.00	7.47
18.5	18.7	6.13	6.79	7.31	6.21	6.89	7.45
19.0	19.2	6.17	6.77	7.30	6.30	6.89	7.45
19.5	19.7	6.25	6.72	7.22	6.39	6.86	7.37
20.0	20.2	6.06	6.63	7.11	6.12	6.71	7.21
20.5	20.7	5.74	6.59	7.24	5.79	6.66	7.34
21.0	21.2	6.09	6.92	7.62	6.14	6.99	7.70
21.5	21.7	6.52	7.28	7.95	6.63	7.39	8.09
22.0	22.2	6.93	7.69	8.28	7.11	7.84	8.44
22.5	22.7	6.96	7.72	8.20	7.12	7.85	8.33
23.0	23.2	6.66	7.42	7.92	6.75	7.50	8.00
23.5	23.7	6.57	7.32	7.93	6.66	7.38	7.99
24.0	24.2	6.37	7.20	7.87	6.41	7.24	7.91
24.5	24.7	7.13	7.90	8.51	7.14	7.91	8.53
25.0	25.2	7.20	7.93	8.45	7.19	7.94	8.48
25.5	25.7	7.08	7.80	8.28	7.10	7.83	8.34
26.0	26.2	6.94	7.54	8.08	7.00	7.61	8.17
26.5	26.7	6.82	7.42	7.99	6.92	7.50	8.07
27.0	27.2	6.92	7.47	8.06	6.98	7.56	8.16
27.5	27.7	6.46	7.22	7.83	6.55	7.32	7.94
28.0	28.2	6.25	7.16	7.88	6.33	7.25	7.98
28.5	28.7	6.16	7.14	7.92	6.24	7.22	8.00
29.0	29.2	6.39	7.37	8.19	6.47	7.45	8.27
29.5	29.7	6.66	7.62	8.34	6.72	7.69	8.41
30.0	30.2	7.08	7.95	8.61	7.15	8.03	8.68

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

IF (GHz)	RF (IN) (GHz)	CONVERSION LOSS (l) VS. IF FREQUENCY @ Fixed LO = 10 GHz			IF (MHz)	RF (IN) (MHz)	CONVERSION LOSS (l) VS. IF FREQUENCY @ Fixed LO = 20 GHz			IF (MHz)	RF (IN) (MHz)	CONVERSION LOSS (l) VS. IF FREQUENCY @ Fixed LO = 30 GHz		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
0.01	10.01	7.7	7.6	7.5	0.01	20.01	6.3	6.3	6.3	0.01	29.99	7.8	7.9	8.0
0.1	10.1	7.7	7.5	7.4	0.1	20.1	6.3	6.2	6.2	0.1	29.9	7.4	7.5	7.6
0.2	10.2	8.0	7.8	7.7	0.2	20.2	6.3	6.3	6.3	0.2	29.8	7.4	7.4	7.5
0.4	10.4	8.1	8.0	7.9	0.4	20.4	6.5	6.5	6.5	0.4	29.6	7.6	7.6	7.7
0.6	10.6	8.2	8.1	8.0	0.6	20.6	6.8	6.8	6.8	0.6	29.4	7.7	7.8	7.9
0.8	10.8	8.1	8.0	7.9	0.8	20.8	7.2	7.2	7.2	0.8	29.2	7.4	7.5	7.6
1.0	11.0	8.7	8.6	8.5	1.0	21.0	7.2	7.2	7.2	1.0	29.0	7.7	7.7	7.8
1.2	11.2	8.8	8.7	8.6	1.2	21.2	7.3	7.3	7.3	1.2	28.8	7.8	7.9	8.0
1.4	11.4	8.6	8.5	8.5	1.4	21.4	7.7	7.7	7.7	1.4	28.6	7.7	7.7	7.8
1.6	11.6	8.4	8.4	8.4	1.6	21.6	7.7	7.6	7.6	1.6	28.4	7.8	7.9	8.0
1.8	11.8	8.7	8.7	8.7	1.8	21.8	8.1	8.1	8.1	1.8	28.2	8.2	8.2	8.3
2.0	12.0	8.6	8.6	8.6	2.0	22.0	8.7	8.6	8.6	2.0	28.0	8.1	8.2	8.2
2.2	12.2	8.8	8.8	8.8	2.2	22.2	8.4	8.4	8.4	2.2	27.8	8.0	8.1	8.1
2.4	12.4	9.1	9.1	9.2	2.4	22.4	8.8	8.8	8.8	2.4	27.6	8.1	8.2	8.2
2.6	12.6	8.9	8.9	8.9	2.6	22.6	9.1	9.0	9.0	2.6	27.4	8.5	8.5	8.5
2.8	12.8	8.7	8.7	8.7	2.8	22.8	8.9	8.8	8.8	2.8	27.2	8.3	8.3	8.3
3.0	13.0	8.9	9.0	9.0	3.0	23.0	8.9	8.9	8.8	3.0	27.0	8.7	8.7	8.7
3.2	13.2	8.8	8.8	8.8	3.2	23.2	9.7	9.6	9.6	3.2	26.8	8.8	8.7	8.7
3.4	13.4	8.6	8.7	8.7	3.4	23.4	8.8	8.7	8.7	3.4	26.6	8.5	8.5	8.5
3.6	13.6	8.8	8.9	9.0	3.6	23.6	9.2	9.1	9.1	3.6	26.4	9.0	9.0	9.0
3.8	13.8	9.2	9.2	9.3	3.8	23.8	9.3	9.2	9.2	3.8	26.2	9.5	9.5	9.5
4.0	14.0	8.8	8.9	9.0	4.0	24.0	9.0	8.9	8.9	4.0	26.0	9.0	9.0	9.0
4.2	14.2	8.9	9.0	9.0	4.2	24.2	9.1	9.0	9.0	4.2	25.8	9.1	9.0	9.0
4.4	14.4	9.1	9.2	9.2	4.4	24.4	9.8	9.6	9.6	4.4	25.6	9.5	9.5	9.4
4.6	14.6	9.1	9.1	9.2	4.6	24.6	9.6	9.5	9.4	4.6	25.4	9.2	9.2	9.1
4.8	14.8	9.3	9.3	9.3	4.8	24.8	9.7	9.6	9.5	4.8	25.2	9.3	9.3	9.2
5.0	15.0	10.3	10.3	10.5	5.0	25.0	10.2	10.1	10.0	5.0	25.0	9.7	9.6	9.6
5.2	15.2	9.7	9.7	9.8	5.2	25.2	10.1	10.0	9.9	5.2	24.8	9.6	9.6	9.6
5.4	15.4	10.0	10.0	10.0	5.4	25.4	10.2	10.0	9.9	5.4	24.6	9.8	9.7	9.7
5.6	15.6	10.1	10.1	10.1	5.6	25.6	10.6	10.4	10.3	5.6	24.4	9.9	9.8	9.8
5.8	15.8	10.6	10.5	10.5	5.8	25.8	10.5	10.3	10.2	5.8	24.2	9.7	9.6	9.6
6.0	16.0	10.3	10.2	10.2	6.0	26.0	10.0	9.8	9.7	6.0	24.0	9.4	9.3	9.3
6.2	16.2	10.5	10.4	10.4	6.2	26.2	10.7	10.4	10.3	6.2	23.8	9.7	9.6	9.6
6.4	16.4	9.8	9.7	9.7	6.4	26.4	10.4	10.1	10.0	6.4	23.6	9.9	9.8	9.8
6.6	16.6	9.7	9.6	9.6	6.6	26.6	10.3	10.0	9.8	6.6	23.4	10.0	10.0	10.0
6.8	16.8	10.1	10.0	9.9	6.8	26.8	10.5	10.2	10.0	6.8	23.2	10.7	10.6	10.6
7.0	17.0	9.9	9.7	9.7	7.0	27.0	10.6	10.3	10.1	7.0	23.0	10.1	10.1	10.1
7.2	17.2	10.0	9.8	9.8	7.2	27.2	10.9	10.6	10.4	7.2	22.8	10.7	10.7	10.6
7.4	17.4	10.1	10.0	9.9	7.4	27.4	11.2	10.8	10.6	7.4	22.6	11.0	10.9	10.9
7.6	17.6	9.8	9.7	9.6	7.6	27.6	11.1	10.8	10.6	7.6	22.4	10.7	10.6	10.6
7.8	17.8	9.9	9.7	9.7	7.8	27.8	11.4	11.1	10.9	7.8	22.2	10.9	10.8	10.8
8.0	18.0	9.9	9.8	9.7	8.0	28.0	11.7	11.4	11.1	8.0	22.0	11.1	11.1	11.1

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

IF (GHz)	RF (IN) (GHz)	CONVERSION LOSS (Q) VS. IF FREQUENCY @ Fixed LO = 10 GHz			IF (MHz)	RF (IN) (MHz)	CONVERSION LOSS (Q) VS. IF FREQUENCY @ Fixed LO = 20 GHz			IF (MHz)	RF (IN) (MHz)	CONVERSION LOSS (Q) VS. IF FREQUENCY @ Fixed LO = 30 GHz		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
0.01	10.01	7.7	7.6	7.5	0.01	20.01	6.5	6.5	6.6	0.01	29.99	7.8	7.9	8.0
0.1	10.1	7.8	7.7	7.6	0.1	20.1	6.3	6.4	6.4	0.1	29.9	7.4	7.5	7.5
0.2	10.2	8.0	7.9	7.7	0.2	20.2	6.3	6.4	6.4	0.2	29.8	7.4	7.5	7.6
0.4	10.4	8.2	8.1	8.0	0.4	20.4	6.5	6.5	6.6	0.4	29.6	7.6	7.7	7.8
0.6	10.6	8.6	8.4	8.3	0.6	20.6	6.8	6.8	6.8	0.6	29.4	7.7	7.7	7.8
0.8	10.8	8.4	8.2	8.1	0.8	20.8	7.1	7.1	7.2	0.8	29.2	7.5	7.5	7.6
1.0	11.0	8.9	8.8	8.6	1.0	21.0	7.1	7.1	7.2	1.0	29.0	7.8	7.8	7.9
1.2	11.2	8.8	8.7	8.6	1.2	21.2	7.3	7.3	7.3	1.2	28.8	8.0	8.1	8.2
1.4	11.4	8.4	8.3	8.3	1.4	21.4	7.6	7.6	7.7	1.4	28.6	8.0	8.0	8.1
1.6	11.6	8.6	8.5	8.4	1.6	21.6	7.5	7.5	7.5	1.6	28.4	8.0	8.1	8.1
1.8	11.8	8.6	8.5	8.5	1.8	21.8	7.9	7.9	8.0	1.8	28.2	8.4	8.4	8.5
2.0	12.0	8.7	8.6	8.6	2.0	22.0	8.4	8.5	8.5	2.0	28.0	8.3	8.4	8.4
2.2	12.2	8.5	8.5	8.5	2.2	22.2	8.1	8.1	8.1	2.2	27.8	8.2	8.3	8.3
2.4	12.4	8.5	8.5	8.5	2.4	22.4	8.5	8.5	8.5	2.4	27.6	8.4	8.4	8.5
2.6	12.6	8.3	8.3	8.3	2.6	22.6	8.7	8.8	8.8	2.6	27.4	8.8	8.8	8.8
2.8	12.8	8.3	8.3	8.3	2.8	22.8	8.5	8.6	8.6	2.8	27.2	8.7	8.7	8.8
3.0	13.0	8.7	8.7	8.8	3.0	23.0	8.5	8.5	8.6	3.0	27.0	9.0	9.0	9.0
3.2	13.2	8.4	8.4	8.4	3.2	23.2	9.2	9.2	9.2	3.2	26.8	9.2	9.1	9.1
3.4	13.4	8.5	8.5	8.6	3.4	23.4	8.3	8.3	8.3	3.4	26.6	9.0	9.0	9.0
3.6	13.6	8.5	8.6	8.6	3.6	23.6	8.6	8.6	8.7	3.6	26.4	9.4	9.4	9.3
3.8	13.8	8.6	8.6	8.7	3.8	23.8	8.6	8.6	8.6	3.8	26.2	9.9	9.9	9.9
4.0	14.0	8.3	8.3	8.3	4.0	24.0	8.2	8.2	8.3	4.0	26.0	9.4	9.4	9.4
4.2	14.2	9.0	9.0	9.0	4.2	24.2	8.5	8.5	8.5	4.2	25.8	9.8	9.8	9.8
4.4	14.4	8.9	8.9	9.0	4.4	24.4	9.0	9.0	9.0	4.4	25.6	10.2	10.1	10.1
4.6	14.6	9.1	9.1	9.2	4.6	24.6	8.8	8.8	8.9	4.6	25.4	10.0	9.9	9.9
4.8	14.8	9.3	9.3	9.3	4.8	24.8	9.0	9.0	9.0	4.8	25.2	10.1	10.1	10.0
5.0	15.0	10.1	10.0	10.0	5.0	25.0	9.2	9.1	9.1	5.0	25.0	10.3	10.2	10.2
5.2	15.2	9.3	9.3	9.3	5.2	25.2	9.0	8.9	8.9	5.2	24.8	10.2	10.1	10.1
5.4	15.4	9.8	9.7	9.6	5.4	25.4	9.0	9.0	9.0	5.4	24.6	10.4	10.3	10.2
5.6	15.6	10.0	10.0	9.9	5.6	25.6	9.5	9.5	9.5	5.6	24.4	10.6	10.6	10.5
5.8	15.8	10.0	9.9	9.8	5.8	25.8	9.0	9.0	8.9	5.8	24.2	10.0	9.9	9.9
6.0	16.0	10.7	10.6	10.5	6.0	26.0	9.4	9.3	9.3	6.0	24.0	10.7	10.6	10.6
6.2	16.2	10.6	10.5	10.4	6.2	26.2	9.7	9.6	9.6	6.2	23.8	10.8	10.7	10.6
6.4	16.4	10.2	10.0	9.9	6.4	26.4	9.6	9.5	9.5	6.4	23.6	11.1	11.0	10.9
6.6	16.6	9.7	9.5	9.4	6.6	26.6	9.2	9.1	9.0	6.6	23.4	10.9	10.8	10.7
6.8	16.8	10.4	10.2	10.1	6.8	26.8	9.8	9.6	9.6	6.8	23.2	11.9	11.8	11.8
7.0	17.0	10.0	9.8	9.7	7.0	27.0	9.7	9.6	9.5	7.0	23.0	11.2	11.1	11.1
7.2	17.2	9.7	9.5	9.4	7.2	27.2	9.7	9.6	9.5	7.2	22.8	11.4	11.4	11.3
7.4	17.4	10.2	10.0	9.8	7.4	27.4	10.1	10.0	9.9	7.4	22.6	11.9	11.8	11.8
7.6	17.6	9.5	9.4	9.2	7.6	27.6	9.9	9.8	9.7	7.6	22.4	11.4	11.4	11.3
7.8	17.8	9.8	9.6	9.5	7.8	27.8	10.4	10.2	10.1	7.8	22.2	11.7	11.6	11.6
8.0	18.0	9.6	9.4	9.3	8.0	28.0	10.3	10.2	10.0	8.0	22.0	11.9	11.8	11.8

Frequency Mixer

SMIQ-134H+

Typical Performance Data

IF (GHz)	RF (IN) (GHz)	CONVERSION LOSS (l) VS. IF FREQUENCY @ Fixed LO = 10 GHz			IF (MHz)	RF (IN) (MHz)	CONVERSION LOSS (l) VS. IF FREQUENCY @ Fixed LO = 20 GHz			IF (MHz)	RF (IN) (MHz)	CONVERSION LOSS (l) VS. IF FREQUENCY @ Fixed LO = 30 GHz		
		@TEMPERATURE (°C)					@TEMPERATURE (°C)					@TEMPERATURE (°C)		
		-55	+25	+100			-55	+25	+100			-55	+25	+100
0.01	10.01	7.2	7.5	7.8	0.01	20.01	5.7	6.3	6.9	0.01	29.99	7.1	8.0	8.7
0.1	10.1	7.2	7.5	7.8	0.1	20.1	5.5	6.2	6.9	0.1	29.9	6.6	7.6	8.3
0.2	10.2	7.5	7.7	8.0	0.2	20.2	5.4	6.2	7.0	0.2	29.8	6.5	7.5	8.2
0.4	10.4	7.6	7.9	8.1	0.4	20.4	5.6	6.5	7.2	0.4	29.6	6.9	7.7	8.6
0.6	10.6	7.7	8.1	8.3	0.6	20.6	5.8	6.8	7.6	0.6	29.4	6.9	7.9	8.6
0.8	10.8	7.6	8.0	8.4	0.8	20.8	6.2	7.1	8.0	0.8	29.2	6.6	7.6	8.4
1.0	11.0	8.2	8.6	8.9	1.0	21.0	6.4	7.2	8.1	1.0	29.0	6.8	7.8	8.6
1.2	11.2	8.3	8.7	9.0	1.2	21.2	6.4	7.3	8.0	1.2	28.8	7.0	7.9	8.7
1.4	11.4	8.0	8.5	8.9	1.4	21.4	6.9	7.7	8.5	1.4	28.6	6.7	7.7	8.4
1.6	11.6	7.8	8.4	8.8	1.6	21.6	6.9	7.7	8.4	1.6	28.4	7.0	7.9	8.7
1.8	11.8	8.1	8.7	9.2	1.8	21.8	7.3	8.2	8.8	1.8	28.2	7.3	8.2	8.8
2.0	12.0	7.9	8.6	9.1	2.0	22.0	7.9	8.7	9.3	2.0	28.0	7.3	8.2	8.8
2.2	12.2	8.1	8.8	9.3	2.2	22.2	7.7	8.4	9.1	2.2	27.8	7.2	8.1	8.8
2.4	12.4	8.5	9.1	9.6	2.4	22.4	8.0	8.8	9.3	2.4	27.6	7.3	8.1	8.8
2.6	12.6	8.2	8.8	9.5	2.6	22.6	8.5	9.1	9.6	2.6	27.4	7.8	8.5	8.9
2.8	12.8	7.9	8.6	9.2	2.8	22.8	8.2	8.9	9.4	2.8	27.2	7.7	8.3	8.8
3.0	13.0	8.2	8.9	9.5	3.0	23.0	8.2	8.9	9.4	3.0	27.0	8.2	8.7	9.2
3.2	13.2	8.0	8.8	9.4	3.2	23.2	9.1	9.6	10.1	3.2	26.8	8.3	8.8	9.2
3.4	13.4	7.9	8.7	9.3	3.4	23.4	8.0	8.7	9.4	3.4	26.6	7.8	8.5	8.9
3.6	13.6	8.1	8.9	9.6	3.6	23.6	8.4	9.1	9.6	3.6	26.4	8.7	9.0	9.5
3.8	13.8	8.5	9.3	10.0	3.8	23.8	8.4	9.1	9.8	3.8	26.2	9.1	9.5	9.9
4.0	14.0	8.1	8.9	9.6	4.0	24.0	8.0	8.9	9.6	4.0	26.0	8.5	9.0	9.5
4.2	14.2	8.2	9.0	9.6	4.2	24.2	8.1	8.9	9.6	4.2	25.8	8.7	9.1	9.6
4.4	14.4	8.4	9.2	9.9	4.4	24.4	8.7	9.6	10.2	4.4	25.6	8.9	9.5	9.9
4.6	14.6	8.4	9.1	9.9	4.6	24.6	8.6	9.4	10.1	4.6	25.4	8.4	9.1	9.6
4.8	14.8	8.5	9.2	9.9	4.8	24.8	8.6	9.5	10.1	4.8	25.2	8.7	9.2	9.8
5.0	15.0	9.6	10.4	10.8	5.0	25.0	9.2	10.0	10.6	5.0	25.0	8.9	9.6	10.1
5.2	15.2	9.0	9.6	10.3	5.2	25.2	9.2	10.0	10.7	5.2	24.8	8.7	9.5	10.0
5.4	15.4	9.2	9.9	10.5	5.4	25.4	9.1	9.9	10.5	5.4	24.6	8.9	9.6	10.3
5.6	15.6	9.3	10.0	10.4	5.6	25.6	9.7	10.4	11.0	5.6	24.4	9.0	9.7	10.3
5.8	15.8	10.0	10.4	11.0	5.8	25.8	9.8	10.4	11.1	5.8	24.2	8.8	9.5	10.1
6.0	16.0	9.6	10.1	10.6	6.0	26.0	9.2	9.8	10.5	6.0	24.0	8.5	9.3	10.0
6.2	16.2	9.9	10.4	10.8	6.2	26.2	9.8	10.5	11.0	6.2	23.8	8.8	9.5	10.2
6.4	16.4	9.0	9.6	10.1	6.4	26.4	9.6	10.2	10.8	6.4	23.6	9.1	9.8	10.3
6.6	16.6	8.9	9.6	10.1	6.6	26.6	9.1	10.0	10.7	6.6	23.4	9.3	9.9	10.6
6.8	16.8	9.3	9.9	10.5	6.8	26.8	9.5	10.2	10.9	6.8	23.2	10.1	10.6	11.2
7.0	17.0	9.1	9.7	10.4	7.0	27.0	9.5	10.2	11.0	7.0	23.0	9.4	10.1	10.6
7.2	17.2	9.1	9.8	10.3	7.2	27.2	9.7	10.5	11.3	7.2	22.8	10.1	10.7	11.3
7.4	17.4	9.2	9.9	10.4	7.4	27.4	9.9	10.8	11.4	7.4	22.6	10.3	10.9	11.5
7.6	17.6	8.9	9.6	10.2	7.6	27.6	9.7	10.7	11.5	7.6	22.4	9.8	10.6	11.1
7.8	17.8	8.9	9.7	10.3	7.8	27.8	10.0	11.0	11.8	7.8	22.2	10.2	10.8	11.5
8.0	18.0	9.0	9.7	10.3	8.0	28.0	10.3	11.2	12.0	8.0	22.0	10.3	11.1	11.7

Frequency Mixer

SMIQ-134H+

Typical Performance Data

IF (GHz)	RF (IN) (GHz)	CONVERSION LOSS (Q) VS. IF FREQUENCY @ Fixed LO = 10 GHz			IF (MHz)	RF (IN) (MHz)	CONVERSION LOSS (Q) VS. IF FREQUENCY @ Fixed LO = 20 GHz			IF (MHz)	RF (IN) (MHz)	CONVERSION LOSS (Q) VS. IF FREQUENCY @ Fixed LO = 30 GHz		
		@TEMPERATURE (°C)					@TEMPERATURE (°C)					@TEMPERATURE (°C)		
		-55	+25	+100			-55	+25	+100			-55	+25	+100
0.01	10.01	7.3	7.5	7.8	0.01	20.01	5.9	6.5	7.1	0.01	29.99	7.1	8.0	8.7
0.1	10.1	7.4	7.6	7.9	0.1	20.1	5.6	6.3	7.0	0.1	29.9	6.6	7.5	8.3
0.2	10.2	7.5	7.8	7.9	0.2	20.2	5.5	6.3	7.1	0.2	29.8	6.5	7.5	8.3
0.4	10.4	7.8	8.0	8.2	0.4	20.4	5.7	6.5	7.3	0.4	29.6	6.9	7.8	8.7
0.6	10.6	8.2	8.4	8.6	0.6	20.6	5.8	6.7	7.6	0.6	29.4	6.8	7.8	8.6
0.8	10.8	7.9	8.2	8.5	0.8	20.8	6.1	7.1	7.9	0.8	29.2	6.6	7.6	8.4
1.0	11.0	8.5	8.8	9.0	1.0	21.0	6.2	7.1	8.0	1.0	29.0	6.9	7.9	8.7
1.2	11.2	8.3	8.7	8.9	1.2	21.2	6.3	7.2	8.0	1.2	28.8	7.2	8.1	8.9
1.4	11.4	7.8	8.3	8.7	1.4	21.4	6.8	7.6	8.5	1.4	28.6	7.1	8.0	8.7
1.6	11.6	7.9	8.5	8.9	1.6	21.6	6.7	7.5	8.3	1.6	28.4	7.2	8.1	8.9
1.8	11.8	7.9	8.5	9.0	1.8	21.8	7.1	8.0	8.7	1.8	28.2	7.5	8.4	9.0
2.0	12.0	8.0	8.6	9.2	2.0	22.0	7.7	8.5	9.2	2.0	28.0	7.5	8.3	9.0
2.2	12.2	7.7	8.4	9.0	2.2	22.2	7.4	8.1	8.9	2.2	27.8	7.4	8.2	8.9
2.4	12.4	7.8	8.5	9.0	2.4	22.4	7.7	8.5	9.0	2.4	27.6	7.6	8.4	9.0
2.6	12.6	7.5	8.2	8.9	2.6	22.6	8.2	8.8	9.4	2.6	27.4	8.1	8.7	9.2
2.8	12.8	7.5	8.3	8.9	2.8	22.8	8.0	8.6	9.2	2.8	27.2	8.1	8.7	9.3
3.0	13.0	8.0	8.7	9.2	3.0	23.0	7.8	8.5	9.0	3.0	27.0	8.5	9.0	9.5
3.2	13.2	7.6	8.4	9.0	3.2	23.2	8.7	9.2	9.7	3.2	26.8	8.7	9.1	9.6
3.4	13.4	7.7	8.5	9.2	3.4	23.4	7.6	8.2	9.0	3.4	26.6	8.3	9.0	9.4
3.6	13.6	7.7	8.5	9.2	3.6	23.6	7.9	8.6	9.1	3.6	26.4	9.0	9.4	9.9
3.8	13.8	7.8	8.6	9.4	3.8	23.8	7.8	8.5	9.2	3.8	26.2	9.4	9.9	10.3
4.0	14.0	7.5	8.3	9.0	4.0	24.0	7.4	8.2	8.9	4.0	26.0	8.9	9.4	9.9
4.2	14.2	8.2	9.0	9.7	4.2	24.2	7.5	8.4	9.2	4.2	25.8	9.4	9.8	10.4
4.4	14.4	8.2	8.9	9.7	4.4	24.4	8.1	8.9	9.6	4.4	25.6	9.6	10.1	10.6
4.6	14.6	8.4	9.1	9.9	4.6	24.6	8.0	8.8	9.6	4.6	25.4	9.2	9.9	10.4
4.8	14.8	8.5	9.2	9.9	4.8	24.8	8.0	8.9	9.6	4.8	25.2	9.5	10.1	10.7
5.0	15.0	9.5	10.0	10.5	5.0	25.0	8.2	9.1	9.8	5.0	25.0	9.5	10.2	10.7
5.2	15.2	8.6	9.2	9.8	5.2	25.2	8.2	8.9	9.7	5.2	24.8	9.4	10.1	10.6
5.4	15.4	9.0	9.6	10.1	5.4	25.4	8.0	8.9	9.6	5.4	24.6	9.5	10.2	10.8
5.6	15.6	9.3	9.8	10.2	5.6	25.6	8.7	9.4	10.1	5.6	24.4	9.7	10.5	11.0
5.8	15.8	9.4	9.8	10.2	5.8	25.8	8.4	9.0	9.8	5.8	24.2	9.1	9.8	10.4
6.0	16.0	10.1	10.4	10.8	6.0	26.0	8.6	9.3	10.0	6.0	24.0	9.8	10.5	11.1
6.2	16.2	10.0	10.3	10.7	6.2	26.2	8.9	9.6	10.1	6.2	23.8	9.9	10.6	11.1
6.4	16.4	9.4	9.9	10.3	6.4	26.4	8.9	9.5	10.2	6.4	23.6	10.2	10.9	11.4
6.6	16.6	8.8	9.3	9.8	6.6	26.6	8.1	9.0	9.7	6.6	23.4	10.0	10.7	11.3
6.8	16.8	9.6	10.1	10.5	6.8	26.8	8.8	9.6	10.3	6.8	23.2	11.3	11.8	12.3
7.0	17.0	9.2	9.7	10.2	7.0	27.0	8.8	9.5	10.3	7.0	23.0	10.4	11.1	11.6
7.2	17.2	8.9	9.5	9.9	7.2	27.2	8.6	9.5	10.3	7.2	22.8	10.7	11.3	11.9
7.4	17.4	9.4	9.9	10.3	7.4	27.4	9.1	9.9	10.6	7.4	22.6	11.3	11.9	12.4
7.6	17.6	8.8	9.4	9.9	7.6	27.6	8.8	9.7	10.6	7.6	22.4	10.6	11.4	11.9
7.8	17.8	9.1	9.7	10.2	7.8	27.8	9.2	10.2	11.1	7.8	22.2	11.1	11.7	12.4
8.0	18.0	8.9	9.4	9.9	8.0	28.0	9.2	10.1	11.0	8.0	22.0	11.2	11.9	12.6

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25 °C

RF (IN) (GHz)	LO (GHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 200 MHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 200 MHz			RF (IN) (MHz)	LO (MHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 1 GHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 1 GHz		
		@LO (dBm)			@LO (dBm)					@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19			+17	+18	+19	+17	+18	+19
10.0	10.2	0.15	0.15	0.15	3.47	4.01	4.41	5.0	5.2	0.00	-0.01	-0.02	3.99	4.06	4.01
10.5	10.7	0.12	0.12	0.12	2.15	2.52	2.77	5.2	5.4	-0.03	-0.04	-0.05	4.26	4.44	4.59
11.0	11.2	0.06	0.05	0.04	1.29	1.42	1.48	5.4	5.6	-0.13	-0.14	-0.15	4.68	4.61	4.66
11.5	11.7	0.04	0.03	0.02	3.20	3.44	3.71	5.6	5.8	-0.12	-0.14	-0.16	6.20	5.56	4.97
12.0	12.2	-0.02	-0.03	-0.05	2.83	2.51	2.35	5.8	6.0	-0.08	-0.13	-0.17	6.21	5.80	5.35
12.5	12.7	-0.02	-0.04	-0.06	4.79	4.20	3.58	6.0	6.2	0.07	-0.01	-0.08	4.64	4.00	3.47
13.0	13.2	0.05	0.01	-0.04	3.35	2.88	2.39	6.2	6.4	0.05	-0.01	-0.08	4.25	3.44	2.63
13.5	13.7	0.11	0.05	-0.01	2.20	1.46	0.79	6.4	6.6	-0.02	-0.05	-0.10	3.66	3.15	2.58
14.0	14.2	0.07	0.02	-0.03	2.02	1.48	0.86	6.6	6.8	-0.14	-0.18	-0.23	2.64	2.03	1.64
14.5	14.7	-0.01	-0.07	-0.14	0.53	0.25	0.04	6.8	7.0	-0.10	-0.18	-0.25	2.35	1.54	1.01
15.0	15.2	-0.03	-0.10	-0.17	0.44	1.00	1.29	7.0	7.2	-0.02	-0.09	-0.17	1.89	0.91	0.24
15.5	15.7	0.02	-0.06	-0.16	0.76	1.59	2.10	7.2	7.4	-0.05	-0.13	-0.20	1.89	0.75	0.10
16.0	16.2	-0.02	-0.08	-0.15	0.36	1.27	1.89	7.4	7.6	0.00	-0.08	-0.15	0.93	0.34	1.24
16.5	16.7	0.02	-0.06	-0.15	1.33	2.50	3.34	7.6	7.8	-0.01	-0.07	-0.13	0.65	0.48	1.32
17.0	17.2	0.01	-0.06	-0.13	1.62	2.77	3.62	7.8	8.0	-0.03	-0.10	-0.16	0.09	0.93	1.58
17.5	17.7	0.03	-0.04	-0.11	2.07	2.96	3.63	8.0	8.2	-0.07	-0.14	-0.21	0.28	0.98	1.56
18.0	18.2	0.04	-0.04	-0.11	2.72	3.41	4.00	8.2	8.4	-0.09	-0.17	-0.23	0.74	1.24	1.69
18.5	18.7	0.09	0.01	-0.07	3.58	4.07	4.54	8.4	8.6	-0.02	-0.09	-0.15	1.22	1.65	2.03
19.0	19.2	0.05	-0.02	-0.08	3.55	3.86	4.13	8.6	8.8	0.04	-0.05	-0.11	2.01	1.98	2.11
19.5	19.7	0.02	-0.05	-0.11	3.32	3.51	3.69	8.8	9.0	0.03	-0.04	-0.09	2.39	2.03	1.87
20.0	20.2	0.10	0.01	-0.06	3.81	3.64	3.57	9.0	9.2	-0.10	-0.14	-0.18	3.36	2.42	1.78
20.5	20.7	0.08	0.01	-0.05	5.04	4.38	3.98	9.2	9.4	-0.17	-0.21	-0.25	5.16	3.92	2.88
21.0	21.2	0.09	0.01	-0.05	6.53	5.28	4.33	9.4	9.6	-0.09	-0.15	-0.21	5.40	4.47	3.55
21.5	21.7	0.06	-0.01	-0.08	7.55	6.33	5.23	9.5	9.7	0.01	-0.04	-0.10	3.48	2.83	2.24
22.0	22.2	0.00	-0.06	-0.12	6.88	6.09	5.32	9.6	9.8	-0.05	-0.09	-0.13	2.11	1.40	0.87
22.5	22.7	0.01	-0.03	-0.07	5.26	4.51	3.89	9.8	10.0	-0.09	-0.12	-0.15	1.46	0.71	0.17
23.0	23.2	0.06	0.02	-0.02	4.60	3.69	2.98	10.0	10.2	-0.01	-0.05	-0.08	1.07	0.23	0.43
23.5	23.7	0.08	0.03	-0.01	3.32	2.41	1.72	10.2	10.4	0.02	-0.01	-0.05	0.40	1.21	1.86
24.0	24.2	0.09	0.05	0.01	2.27	1.35	0.61	10.4	10.6	0.01	-0.01	-0.04	1.27	2.09	2.75
24.5	24.7	0.12	0.08	0.04	0.93	0.01	0.72	10.6	10.8	0.03	0.01	-0.03	2.54	3.27	3.92
25.0	25.2	0.12	0.08	0.05	0.23	1.10	1.81	10.8	11.0	0.00	-0.03	-0.06	3.61	4.16	4.71
25.5	25.7	0.10	0.07	0.04	1.29	2.05	2.67	11.0	11.2	-0.02	-0.06	-0.10	4.71	5.06	5.45
26.0	26.2	0.06	0.02	-0.02	2.29	2.85	3.40	11.2	11.4	0.00	-0.04	-0.08	5.71	5.82	6.04
26.5	26.7	0.06	0.02	-0.02	3.50	3.78	4.12	11.4	11.6	-0.02	-0.05	-0.08	6.74	6.66	6.71
27.0	27.2	0.05	0.01	-0.03	4.62	4.72	4.93	11.6	11.8	-0.05	-0.07	-0.09	7.33	7.10	7.02
27.5	27.7	0.03	0.00	-0.04	5.18	5.15	5.25	11.8	12.0	-0.05	-0.06	-0.08	7.82	7.41	7.22
28.0	28.2	0.03	0.00	-0.03	5.85	5.65	5.60	12.0	12.2	-0.02	-0.03	-0.04	8.34	7.69	7.27
28.5	28.7	0.04	0.01	-0.01	6.41	6.02	5.81	12.2	12.4	-0.02	-0.02	-0.02	8.77	7.92	7.31
29.0	29.2	0.03	0.02	0.00	6.93	6.37	6.03	12.4	12.6	-0.01	0.00	0.00	8.94	8.01	7.33
29.5	29.7	0.03	0.02	0.02	7.54	6.74	6.17	12.6	12.8	-0.01	0.00	0.00	8.82	7.74	6.94
30.0	30.2	0.01	0.01	0.01	7.59	6.56	5.80	12.8	13.0	-0.04	-0.01	0.01	8.12	7.30	6.77

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (IN) (GHz)	LO (GHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 2 GHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 2 GHz			RF (IN) (MHz)	LO (MHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 3 GHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 3 GHz		
		@LO (dBm)			@LO (dBm)					@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19			+17	+18	+19	+17	+18	+19
10.0	10.2	0.15	0.15	0.15	6.83	6.95	7.14	10.0	10.2	-0.71	-0.73	-0.74	11.72	11.59	11.28
10.5	10.7	0.12	0.12	0.12	8.15	7.66	7.23	10.5	10.7	-0.56	-0.63	-0.70	9.40	9.33	9.31
11.0	11.2	0.06	0.05	0.04	8.88	8.64	8.28	11.0	11.2	-0.35	-0.41	-0.49	9.11	8.61	8.14
11.5	11.7	0.04	0.03	0.01	6.84	6.51	6.30	11.5	11.7	-0.29	-0.33	-0.39	9.32	8.74	8.23
12.0	12.2	-0.03	-0.04	-0.06	6.98	6.39	5.80	12.0	12.2	-0.36	-0.39	-0.43	10.11	9.65	9.20
12.5	12.7	-0.03	-0.05	-0.08	6.77	6.26	5.74	12.5	12.7	-0.34	-0.39	-0.45	8.84	8.56	8.44
13.0	13.2	0.03	-0.02	-0.06	6.24	5.87	5.60	13.0	13.2	-0.35	-0.41	-0.47	8.35	7.92	7.76
13.5	13.7	0.08	0.02	-0.04	5.87	5.49	5.29	13.5	13.7	-0.35	-0.41	-0.48	7.71	7.06	6.80
14.0	14.2	0.04	-0.01	-0.07	5.27	4.76	4.60	14.0	14.2	-0.32	-0.36	-0.41	7.14	6.38	6.16
14.5	14.7	-0.05	-0.11	-0.18	4.67	3.90	3.52	14.5	14.7	-0.32	-0.37	-0.43	7.07	6.39	6.11
15.0	15.2	-0.08	-0.15	-0.23	3.53	2.74	2.47	15.0	15.2	-0.37	-0.41	-0.47	6.93	6.44	6.16
15.5	15.7	-0.04	-0.13	-0.23	3.62	2.83	2.45	15.5	15.7	-0.46	-0.51	-0.57	6.51	6.18	5.96
16.0	16.2	-0.07	-0.14	-0.21	3.59	3.02	2.71	16.0	16.2	-0.54	-0.59	-0.65	6.57	6.30	6.10
16.5	16.7	-0.05	-0.14	-0.24	3.25	2.82	2.50	16.5	16.7	-0.64	-0.68	-0.74	6.65	6.43	6.22
17.0	17.2	-0.05	-0.12	-0.20	2.73	2.41	2.17	17.0	17.2	-0.63	-0.67	-0.71	6.27	6.28	6.20
17.5	17.7	-0.03	-0.10	-0.18	1.99	1.76	1.58	17.5	17.7	-0.66	-0.68	-0.71	5.80	6.09	6.26
18.0	18.2	-0.03	-0.09	-0.18	1.82	1.85	1.76	18.0	18.2	-0.72	-0.72	-0.72	4.93	5.62	6.10
18.5	18.7	0.02	-0.05	-0.14	1.42	1.74	1.93	18.5	18.7	-0.76	-0.76	-0.77	4.03	5.06	5.88
19.0	19.2	0.00	-0.06	-0.14	0.88	1.64	2.19	19.0	19.2	-0.70	-0.72	-0.75	3.61	4.65	5.63
19.5	19.7	-0.04	-0.09	-0.15	0.52	1.65	2.55	19.5	19.7	-0.61	-0.66	-0.72	4.26	5.14	5.95
20.0	20.2	0.02	-0.05	-0.11	0.14	0.90	1.90	20.0	20.2	-0.54	-0.59	-0.66	5.56	6.26	6.83
20.5	20.7	0.02	-0.04	-0.09	0.09	0.86	1.56	20.5	20.7	-0.45	-0.49	-0.54	6.79	7.49	7.99
21.0	21.2	0.03	-0.03	-0.09	1.97	2.59	3.06	21.0	21.2	-0.39	-0.42	-0.46	7.42	8.27	8.94
21.5	21.7	0.00	-0.06	-0.13	3.87	4.55	5.03	21.5	21.7	-0.40	-0.43	-0.48	9.30	10.12	10.77
22.0	22.2	-0.05	-0.10	-0.17	4.20	5.00	5.64	22.0	22.2	-0.46	-0.47	-0.50	9.48	10.29	10.95
22.5	22.7	-0.02	-0.06	-0.12	5.07	5.85	6.48	22.5	22.7	-0.48	-0.49	-0.52	9.93	10.74	11.42
23.0	23.2	0.03	-0.01	-0.06	5.62	6.41	7.08	23.0	23.2	-0.44	-0.45	-0.50	10.77	11.51	12.19
23.5	23.7	0.04	0.00	-0.06	6.63	7.44	8.15	23.5	23.7	-0.40	-0.42	-0.46	11.95	12.54	13.09
24.0	24.2	0.06	0.03	-0.02	7.72	8.39	9.05	24.0	24.2	-0.42	-0.44	-0.48	12.88	13.31	13.76
24.5	24.7	0.09	0.05	-0.01	8.76	9.31	9.86	24.5	24.7	-0.33	-0.35	-0.38	13.62	13.80	14.05
25.0	25.2	0.09	0.06	0.00	9.47	9.83	10.27	25.0	25.2	-0.33	-0.34	-0.35	14.42	14.45	14.56
25.5	25.7	0.07	0.04	0.00	10.52	10.64	10.84	25.5	25.7	-0.32	-0.32	-0.33	15.02	14.95	15.01
26.0	26.2	0.03	-0.01	-0.06	11.42	11.39	11.46	26.0	26.2	-0.31	-0.31	-0.31	15.34	15.11	15.03
26.5	26.7	0.04	-0.01	-0.08	11.75	11.62	11.66	26.5	26.7	-0.26	-0.25	-0.25	15.26	14.87	14.64
27.0	27.2	0.02	-0.02	-0.08	12.04	11.76	11.66	27.0	27.2	-0.26	-0.25	-0.24	15.23	14.74	14.37
27.5	27.7	0.01	-0.03	-0.08	12.19	11.72	11.45	27.5	27.7	-0.27	-0.27	-0.26	14.92	14.36	13.95
28.0	28.2	0.01	-0.02	-0.05	12.41	11.85	11.43	28.0	28.2	-0.29	-0.27	-0.25	14.53	14.18	14.02
28.5	28.7	0.02	0.00	-0.03	11.96	11.29	10.80	28.5	28.7	-0.29	-0.27	-0.24	14.97	14.57	14.29
29.0	29.2	0.02	0.00	-0.01	11.66	11.25	11.02	29.0	29.2	-0.31	-0.27	-0.23	14.53	13.90	13.45
29.5	29.7	0.02	0.01	0.01	12.02	11.56	11.25	29.5	29.7	-0.42	-0.38	-0.35	14.03	13.60	13.26
30.0	30.2	0.01	0.01	0.01	11.17	10.53	10.05	30.0	30.2	-0.55	-0.51	-0.49	13.89	13.62	13.41

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25 °C

RF (IN) (GHz)	LO (GHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 4 GHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 4 GHz			RF (IN) (MHz)	LO (MHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 5 GHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 5 GHz		
		@LO (dBm)			@LO (dBm)					@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19			+17	+18	+19	+17	+18	+19
10.0	10.2	-0.60	-0.66	-0.73	12.53	11.98	11.51	10.0	10.2	-0.64	-0.65	-0.69	17.24	16.40	15.72
10.5	10.7	-0.45	-0.50	-0.56	12.50	11.75	11.11	10.5	10.7	-0.63	-0.62	-0.64	17.18	16.55	16.06
11.0	11.2	-0.31	-0.33	-0.38	13.02	12.37	11.80	11.0	11.2	-0.67	-0.67	-0.69	16.39	15.82	15.49
11.5	11.7	-0.44	-0.46	-0.50	12.37	11.92	11.58	11.5	11.7	-0.70	-0.71	-0.75	15.69	14.86	14.33
12.0	12.2	-0.43	-0.46	-0.51	11.97	11.34	10.94	12.0	12.2	-0.69	-0.67	-0.66	14.64	13.78	13.29
12.5	12.7	-0.40	-0.44	-0.50	10.92	10.09	9.59	12.5	12.7	-0.59	-0.60	-0.61	14.22	13.51	13.11
13.0	13.2	-0.38	-0.41	-0.44	9.60	8.76	8.35	13.0	13.2	-0.48	-0.49	-0.52	14.41	13.83	13.51
13.5	13.7	-0.33	-0.37	-0.41	9.91	9.19	8.80	13.5	13.7	-0.50	-0.52	-0.54	14.91	14.31	13.83
14.0	14.2	-0.36	-0.39	-0.44	10.08	9.49	9.11	14.0	14.2	-0.53	-0.55	-0.58	14.86	14.50	14.20
14.5	14.7	-0.43	-0.46	-0.49	10.39	9.89	9.50	14.5	14.7	-0.54	-0.58	-0.62	14.39	14.12	13.90
15.0	15.2	-0.48	-0.52	-0.58	10.19	9.83	9.55	15.0	15.2	-0.55	-0.57	-0.60	14.43	14.19	14.01
15.5	15.7	-0.47	-0.52	-0.57	10.08	9.78	9.50	15.5	15.7	-0.67	-0.67	-0.69	14.17	14.09	14.01
16.0	16.2	-0.50	-0.54	-0.58	9.96	9.81	9.65	16.0	16.2	-0.78	-0.77	-0.78	13.98	14.27	14.47
16.5	16.7	-0.63	-0.63	-0.65	9.15	9.27	9.33	16.5	16.7	-0.81	-0.80	-0.80	13.21	13.84	14.34
17.0	17.2	-0.72	-0.71	-0.71	8.62	9.04	9.35	17.0	17.2	-0.91	-0.90	-0.91	12.36	13.10	13.81
17.5	17.7	-0.77	-0.76	-0.76	8.04	8.84	9.47	17.5	17.7	-0.83	-0.84	-0.87	12.41	13.16	13.84
18.0	18.2	-0.74	-0.75	-0.77	6.85	7.74	8.59	18.0	18.2	-0.76	-0.80	-0.84	12.82	13.60	14.23
18.5	18.7	-0.67	-0.70	-0.74	7.13	7.92	8.64	18.5	18.7	-0.63	-0.67	-0.72	13.07	13.80	14.39
19.0	19.2	-0.53	-0.58	-0.64	7.90	8.65	9.27	19.0	19.2	-0.48	-0.51	-0.54	13.83	14.54	15.15
19.5	19.7	-0.40	-0.44	-0.50	9.35	10.03	10.56	19.5	19.7	-0.50	-0.51	-0.55	15.53	16.24	16.81
20.0	20.2	-0.42	-0.45	-0.48	10.14	10.92	11.56	20.0	20.2	-0.55	-0.56	-0.59	16.58	17.18	17.69
20.5	20.7	-0.40	-0.42	-0.46	11.11	11.87	12.49	20.5	20.7	-0.55	-0.55	-0.58	17.50	18.10	18.58
21.0	21.2	-0.40	-0.41	-0.43	11.92	12.62	13.19	21.0	21.2	-0.53	-0.53	-0.55	18.37	18.91	19.38
21.5	21.7	-0.45	-0.46	-0.49	13.53	14.19	14.74	21.5	21.7	-0.55	-0.54	-0.56	19.61	20.04	20.43
22.0	22.2	-0.50	-0.51	-0.53	14.17	14.76	15.30	22.0	22.2	-0.60	-0.59	-0.61	20.05	20.32	20.64
22.5	22.7	-0.49	-0.50	-0.52	14.59	15.07	15.53	22.5	22.7	-0.59	-0.59	-0.59	20.34	20.40	20.54
23.0	23.2	-0.43	-0.44	-0.46	15.29	15.63	15.98	23.0	23.2	-0.54	-0.53	-0.53	20.82	20.68	20.66
23.5	23.7	-0.40	-0.40	-0.42	16.01	16.13	16.30	23.5	23.7	-0.50	-0.48	-0.47	21.31	20.99	20.86
24.0	24.2	-0.38	-0.38	-0.39	16.85	16.73	16.71	24.0	24.2	-0.53	-0.50	-0.48	21.64	21.13	20.83
24.5	24.7	-0.34	-0.33	-0.34	17.31	17.08	16.99	24.5	24.7	-0.51	-0.48	-0.46	21.75	21.12	20.70
25.0	25.2	-0.35	-0.33	-0.32	17.57	17.13	16.90	25.0	25.2	-0.54	-0.51	-0.49	21.51	20.86	20.39
25.5	25.7	-0.35	-0.33	-0.32	17.49	16.90	16.53	25.5	25.7	-0.57	-0.56	-0.54	21.37	20.67	20.14
26.0	26.2	-0.34	-0.33	-0.32	17.35	16.73	16.27	26.0	26.2	-0.53	-0.50	-0.47	21.10	20.65	20.40
26.5	26.7	-0.38	-0.36	-0.35	17.02	16.31	15.79	26.5	26.7	-0.44	-0.40	-0.37	21.23	20.73	20.38
27.0	27.2	-0.39	-0.37	-0.35	16.81	16.32	16.04	27.0	27.2	-0.34	-0.29	-0.26	20.37	19.57	19.01
27.5	27.7	-0.32	-0.29	-0.27	17.10	16.59	16.21	27.5	27.7	-0.32	-0.28	-0.25	20.04	19.45	19.01
28.0	28.2	-0.27	-0.23	-0.20	16.73	15.94	15.39	28.0	28.2	-0.38	-0.33	-0.30	20.31	19.95	19.66
28.5	28.7	-0.30	-0.25	-0.22	16.67	16.12	15.69	28.5	28.7	-0.51	-0.46	-0.41	20.01	19.78	19.60
29.0	29.2	-0.39	-0.35	-0.32	16.53	16.18	15.91	29.0	29.2	-0.73	-0.66	-0.61	19.46	19.30	19.17
29.5	29.7	-0.54	-0.49	-0.45	16.04	15.83	15.67	29.5	29.7	-1.09	-1.08	-1.06	19.07	19.08	19.09
30.0	30.2	-0.75	-0.70	-0.65	15.52	15.36	15.23	30.0	30.2	-2.37	-2.33	-2.30	15.80	15.87	15.94

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (IN) (GHz)	LO (GHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 6 GHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 6 GHz			RF (IN) (MHz)	LO (MHz)	AMP UNBALANCE VS. RF FREQUENCY @IF = 7 GHz			PHASE UNBALANCE VS. RF FREQUENCY @IF = 7 GHz		
		@LO (dBm)			@LO (dBm)					@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19			+17	+18	+19	+17	+18	+19
10.0	10.2	-1.53	-1.47	-1.43	20.37	19.63	19.18	10.0	10.2	-1.28	-1.23	-1.22	25.86	24.36	23.41
10.5	10.7	-1.48	-1.44	-1.42	19.76	18.90	18.43	10.5	10.7	-1.28	-1.19	-1.13	25.57	24.30	23.30
11.0	11.2	-1.37	-1.31	-1.28	18.70	17.65	16.99	11.0	11.2	-1.25	-1.19	-1.14	24.02	23.15	22.43
11.5	11.7	-1.37	-1.32	-1.27	18.20	17.54	17.16	11.5	11.7	-1.08	-1.06	-1.06	23.72	22.92	22.24
12.0	12.2	-1.20	-1.18	-1.14	17.55	17.09	16.77	12.0	12.2	-1.02	-1.00	-1.00	24.18	23.44	22.80
12.5	12.7	-1.13	-1.12	-1.13	18.30	17.73	17.27	12.5	12.7	-1.08	-1.06	-1.05	23.68	23.18	22.69
13.0	13.2	-1.16	-1.14	-1.14	18.69	18.32	17.99	13.0	13.2	-1.07	-1.09	-1.10	23.72	23.30	22.92
13.5	13.7	-1.11	-1.11	-1.12	18.36	18.14	17.93	13.5	13.7	-1.07	-1.09	-1.12	23.38	23.29	23.23
14.0	14.2	-1.15	-1.16	-1.17	18.21	17.98	17.80	14.0	14.2	-1.05	-1.07	-1.10	23.47	23.58	23.67
14.5	14.7	-1.20	-1.22	-1.25	18.41	18.37	18.33	14.5	14.7	-1.12	-1.13	-1.15	23.68	24.09	24.43
15.0	15.2	-1.26	-1.25	-1.26	18.64	18.90	19.08	15.0	15.2	-1.16	-1.17	-1.19	23.30	23.87	24.40
15.5	15.7	-1.36	-1.35	-1.36	17.93	18.55	19.04	15.5	15.7	-1.17	-1.17	-1.19	23.45	24.05	24.57
16.0	16.2	-1.41	-1.42	-1.43	17.59	18.31	18.99	16.0	16.2	-1.23	-1.24	-1.27	23.67	24.40	24.98
16.5	16.7	-1.45	-1.45	-1.47	17.50	18.29	18.99	16.5	16.7	-1.20	-1.22	-1.25	23.57	24.35	24.96
17.0	17.2	-1.42	-1.44	-1.47	17.54	18.39	19.08	17.0	17.2	-1.17	-1.20	-1.23	23.43	24.21	24.90
17.5	17.7	-1.36	-1.39	-1.43	17.95	18.80	19.47	17.5	17.7	-1.09	-1.13	-1.19	24.40	25.04	25.63
18.0	18.2	-1.24	-1.27	-1.32	17.77	18.59	19.29	18.0	18.2	-1.04	-1.06	-1.10	25.27	25.85	26.31
18.5	18.7	-1.15	-1.17	-1.23	19.14	19.82	20.35	18.5	18.7	-1.00	-1.01	-1.06	26.18	26.74	27.24
19.0	19.2	-1.11	-1.12	-1.15	20.08	20.78	21.30	19.0	19.2	-0.96	-0.96	-1.00	27.59	28.00	28.37
19.5	19.7	-1.09	-1.09	-1.13	21.70	22.35	22.87	19.5	19.7	-1.02	-1.00	-1.02	29.11	29.35	29.62
20.0	20.2	-1.18	-1.17	-1.20	22.90	23.45	23.90	20.0	20.2	-1.11	-1.09	-1.10	29.72	29.83	30.02
20.5	20.7	-1.17	-1.15	-1.17	23.18	23.64	24.04	20.5	20.7	-1.07	-1.04	-1.04	30.04	29.95	29.99
21.0	21.2	-1.14	-1.12	-1.13	23.87	24.17	24.50	21.0	21.2	-1.02	-1.00	-0.99	30.62	30.39	30.28
21.5	21.7	-1.16	-1.14	-1.14	24.99	25.11	25.29	21.5	21.7	-1.03	-1.01	-1.00	31.55	31.16	30.96
22.0	22.2	-1.21	-1.18	-1.18	25.21	25.15	25.19	22.0	22.2	-1.08	-1.05	-1.03	31.87	31.24	30.87
22.5	22.7	-1.21	-1.19	-1.17	25.24	24.98	24.91	22.5	22.7	-1.04	-1.00	-0.97	31.82	31.11	30.62
23.0	23.2	-1.17	-1.14	-1.11	25.56	25.11	24.87	23.0	23.2	-0.97	-0.94	-0.91	31.75	31.05	30.53
23.5	23.7	-1.18	-1.13	-1.10	25.77	25.24	24.89	23.5	23.7	-0.95	-0.91	-0.87	31.45	30.75	30.21
24.0	24.2	-1.21	-1.18	-1.15	26.00	25.45	25.04	24.0	24.2	-0.95	-0.90	-0.84	30.44	30.00	29.73
24.5	24.7	-1.21	-1.18	-1.14	25.99	25.42	25.01	24.5	24.7	-0.95	-0.90	-0.85	30.24	29.74	29.38
25.0	25.2	-1.13	-1.08	-1.04	25.54	25.23	25.08	25.0	25.2	-0.86	-0.81	-0.77	29.38	28.62	28.07
25.5	25.7	-1.06	-1.02	-0.97	25.14	24.76	24.52	25.5	25.7	-0.80	-0.76	-0.72	28.58	28.07	27.68
26.0	26.2	-1.01	-0.95	-0.91	24.43	23.76	23.28	26.0	26.2	-0.75	-0.71	-0.67	28.11	27.74	27.47
26.5	26.7	-0.93	-0.89	-0.86	23.83	23.34	22.98	26.5	26.7	-0.79	-0.73	-0.69	27.97	27.68	27.45
27.0	27.2	-0.92	-0.87	-0.84	23.91	23.59	23.36	27.0	27.2	-0.99	-0.92	-0.86	27.86	27.59	27.38
27.5	27.7	-0.99	-0.94	-0.89	24.06	23.86	23.68	27.5	27.7	-1.47	-1.45	-1.44	28.04	28.02	28.02
28.0	28.2	-1.21	-1.14	-1.09	23.56	23.40	23.28	28.0	28.2	-3.10	-3.06	-3.02	28.92	28.92	28.92
28.5	28.7	-1.64	-1.62	-1.61	23.15	23.16	23.18	28.5	28.7	-16.44	-16.35	-16.28	78.92	77.84	76.72
29.0	29.2	-3.10	-3.06	-3.03	21.95	21.99	22.04	29.0	29.2	-17.85	-17.86	-17.87	138.28	138.26	138.32
29.5	29.7	-17.97	-17.86	-17.74	61.36	60.10	58.82	29.5	29.7	-17.82	-17.84	-17.87	150.58	150.56	150.54
30.0	30.2	-19.04	-19.05	-19.05	133.26	133.28	133.34	30.0	30.2	-13.81	-13.84	-13.89	97.56	98.02	98.51

Frequency Mixer

SMIQ-134H+

Typical Performance Data

RF (GHz)	LO (GHz)	AMPLITUDE UNBALANCE VS. RF FREQUENCY @IF = 200 MHz @LO = +18 dBm			PHASE UNBALANCE VS. RF FREQUENCY @IF = 200 MHz @LO = +18 dBm		
		@ TEMPERATURE			@ TEMPERATURE		
		-55°C	+25°C	+100°C	-55°C	+25°C	+100°C
10.0	10.2	0.18	0.16	0.15	4.55	4.12	3.45
10.5	10.7	0.14	0.12	0.10	3.24	2.58	2.03
11.0	11.2	0.06	0.05	0.05	2.05	1.33	1.48
11.5	11.7	0.05	0.04	0.02	4.14	3.51	3.05
12.0	12.2	-0.02	-0.03	-0.04	2.17	2.55	2.59
12.5	12.7	-0.03	-0.03	-0.03	4.61	4.26	3.79
13.0	13.2	0.01	0.01	-0.01	3.69	2.94	2.41
13.5	13.7	0.11	0.05	-0.01	1.71	1.47	1.31
14.0	14.2	0.08	0.02	-0.05	2.03	1.48	1.09
14.5	14.7	-0.02	-0.07	-0.12	1.03	0.32	0.04
15.0	15.2	-0.06	-0.10	-0.14	0.63	0.89	1.00
15.5	15.7	-0.08	-0.07	-0.11	1.58	1.54	1.48
16.0	16.2	0.01	-0.08	-0.14	1.12	1.26	1.50
16.5	16.7	-0.02	-0.07	-0.11	2.74	2.56	2.46
17.0	17.2	0.00	-0.05	-0.11	2.93	2.74	2.63
17.5	17.7	0.00	-0.04	-0.08	2.78	2.96	2.97
18.0	18.2	-0.01	-0.04	-0.08	3.26	3.45	3.51
18.5	18.7	0.02	-0.01	-0.05	4.10	4.10	4.01
19.0	19.2	-0.03	-0.02	-0.04	4.10	3.91	3.77
19.5	19.7	-0.04	-0.05	-0.06	3.20	3.55	3.56
20.0	20.2	0.04	0.02	0.00	3.33	3.64	3.72
20.5	20.7	0.05	0.02	0.00	4.41	4.40	4.35
21.0	21.2	0.06	0.04	0.02	5.28	5.23	5.08
21.5	21.7	-0.01	-0.01	-0.04	6.67	6.39	5.75
22.0	22.2	-0.08	-0.05	-0.06	7.33	6.11	5.00
22.5	22.7	-0.06	-0.03	-0.03	5.28	4.49	3.79
23.0	23.2	0.01	0.02	0.02	4.33	3.71	3.01
23.5	23.7	0.01	0.03	0.04	3.33	2.46	1.77
24.0	24.2	0.06	0.06	0.05	2.22	1.43	0.78
24.5	24.7	0.09	0.09	0.07	0.69	0.05	0.56
25.0	25.2	0.11	0.09	0.07	0.29	1.01	1.54
25.5	25.7	0.09	0.07	0.05	1.50	1.96	2.40
26.0	26.2	0.03	0.03	0.02	2.64	2.79	3.26
26.5	26.7	0.01	0.03	0.02	3.23	3.69	4.16
27.0	27.2	0.04	0.02	0.00	4.41	4.60	4.89
27.5	27.7	0.01	0.00	0.00	4.80	5.02	5.31
28.0	28.2	0.01	0.01	0.00	5.32	5.52	5.78
28.5	28.7	0.01	0.02	0.02	5.62	5.90	6.21
29.0	29.2	0.02	0.02	0.02	6.00	6.27	6.46
29.5	29.7	0.04	0.03	0.03	6.22	6.64	6.70
30.0	30.2	0.02	0.02	0.02	6.36	6.48	6.51

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25 °C

LO (IN) (GHz)	LO-RF ISOLATION (dB)			LO-IF (I) ISOLATION (dB)			LO-IF (Q) ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19
10.0	42.70	42.81	42.97	33.77	33.84	33.91	39.55	38.94	38.49
10.5	42.71	42.94	43.20	34.68	34.90	35.12	39.31	38.75	38.33
11.0	42.03	42.41	42.77	34.82	35.27	35.64	38.49	38.33	38.12
11.5	40.55	41.01	41.45	35.58	36.27	36.85	37.58	37.67	37.59
12.0	40.20	40.64	41.07	35.86	36.74	37.51	37.52	37.80	37.87
12.5	40.32	40.74	41.15	36.44	37.41	38.28	37.12	37.54	37.72
13.0	40.85	41.31	41.75	36.69	37.70	38.61	36.92	37.35	37.62
13.5	40.17	40.82	41.50	37.87	38.96	39.93	36.66	37.03	37.26
14.0	39.93	40.61	41.33	39.54	40.64	41.63	37.06	37.40	37.65
14.5	39.60	40.27	41.00	41.99	43.06	44.00	37.72	38.08	38.37
15.0	39.88	40.49	41.16	44.55	45.62	46.53	37.94	38.28	38.56
15.5	40.33	40.88	41.51	45.74	46.78	47.64	39.09	39.45	39.75
16.0	40.88	41.55	42.25	47.25	48.31	49.17	40.27	40.72	41.09
16.5	40.15	40.88	41.69	49.02	49.98	50.76	40.16	40.65	41.08
17.0	40.30	41.12	41.99	51.25	52.03	52.65	40.80	41.22	41.60
17.5	40.23	41.04	41.88	53.64	54.52	55.32	41.46	41.80	42.11
18.0	39.48	40.20	40.95	53.87	55.03	56.22	43.14	43.35	43.55
18.5	38.68	39.35	40.04	55.53	57.35	59.35	46.41	46.44	46.48
19.0	38.02	38.68	39.35	64.77	72.58	72.13	50.30	50.06	49.88
19.5	37.84	38.52	39.18	70.62	64.48	61.05	53.94	53.27	52.77
20.0	37.26	37.85	38.41	61.97	59.59	58.06	75.41	66.76	63.76
20.5	36.09	36.68	37.26	53.60	52.47	51.69	58.82	59.41	59.36
21.0	36.09	36.70	37.30	48.52	47.89	47.39	51.17	51.55	51.80
21.5	36.75	37.50	38.21	46.02	45.38	44.93	46.19	46.49	46.75
22.0	37.36	38.12	38.77	45.05	44.61	44.33	43.13	43.54	43.91
22.5	38.29	39.10	39.78	45.28	44.92	44.76	41.07	41.52	41.97
23.0	38.50	39.37	40.14	45.32	45.00	44.87	42.10	42.58	43.05
23.5	38.42	39.24	39.95	45.91	45.74	45.75	44.18	44.66	45.13
24.0	37.27	37.91	38.49	45.27	45.32	45.44	45.29	45.74	46.11
24.5	37.77	38.42	39.09	44.99	44.94	44.97	47.16	47.27	47.35
25.0	38.42	39.10	39.81	44.39	44.31	44.32	49.17	48.90	48.65
25.5	38.44	39.16	39.85	43.50	43.37	43.30	50.77	49.50	48.62
26.0	38.06	38.77	39.45	42.44	42.25	42.16	52.01	50.11	48.98
26.5	37.75	38.47	39.16	41.79	41.64	41.59	50.44	48.84	47.94
27.0	37.35	38.02	38.69	41.32	41.18	41.15	47.95	46.84	46.20
27.5	37.12	37.82	38.52	40.55	40.40	40.39	46.96	46.23	45.84
28.0	36.74	37.44	38.16	39.68	39.58	39.62	45.53	45.16	45.03
28.5	36.63	37.34	38.05	39.70	39.52	39.51	44.11	43.85	43.78
29.0	36.98	37.69	38.39	39.77	39.54	39.47	43.97	43.82	43.77
29.5	37.40	38.10	38.79	38.86	38.66	38.67	44.21	44.24	44.38
30.0	37.78	38.38	39.13	38.35	38.32	38.55	44.49	44.86	45.32

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

LO (IN) (GHz)	LO (MHz)	RF-IF (I) ISOLATION (dB)			RF-IF (Q) ISOLATION (dB)		
		@LO (dBm)			@LO (dBm)		
		+17	+18	+19	+17	+18	+19
10.0	10.20	30.04	29.99	29.87	37.28	37.37	37.48
10.5	10.70	30.68	30.63	30.52	37.69	37.81	37.90
11.0	11.20	30.64	30.62	30.51	38.41	38.59	38.66
11.5	11.70	32.00	32.02	31.93	37.64	37.55	37.41
12.0	12.20	32.77	32.78	32.69	35.56	35.39	35.23
12.5	12.70	32.59	32.64	32.59	33.44	33.30	33.17
13.0	13.20	31.20	31.12	30.99	32.41	32.25	32.13
13.5	13.70	31.57	31.50	31.34	31.48	31.32	31.17
14.0	14.20	32.11	32.07	31.94	31.59	31.43	31.25
14.5	14.70	32.64	32.55	32.42	32.03	31.87	31.71
15.0	15.20	33.59	33.37	33.14	32.48	32.36	32.24
15.5	15.70	32.14	31.90	31.62	32.56	32.49	32.38
16.0	16.20	31.07	30.92	30.78	34.06	34.03	33.94
16.5	16.70	28.82	28.71	28.63	33.65	33.77	33.86
17.0	17.20	27.73	27.64	27.59	34.72	34.88	35.04
17.5	17.70	25.71	25.63	25.59	36.85	37.09	37.33
18.0	18.20	24.51	24.44	24.39	38.64	38.99	39.30
18.5	18.70	22.74	22.68	22.64	38.85	38.93	38.99
19.0	19.20	20.84	20.79	20.76	33.99	33.87	33.77
19.5	19.70	20.32	20.29	20.27	29.98	29.83	29.72
20.0	20.20	19.53	19.51	19.50	28.34	28.21	28.12
20.5	20.70	17.80	17.81	17.82	26.57	26.49	26.44
21.0	21.20	16.82	16.84	16.86	24.21	24.16	24.13
21.5	21.70	16.91	16.95	16.98	23.00	22.99	22.98
22.0	22.20	18.04	18.07	18.10	23.16	23.16	23.16
22.5	22.70	19.94	19.97	20.00	23.09	23.09	23.09
23.0	23.20	21.28	21.32	21.36	24.89	24.90	24.90
23.5	23.70	22.82	22.86	22.91	27.44	27.45	27.47
24.0	24.20	24.28	24.34	24.38	28.64	28.67	28.70
24.5	24.70	27.27	27.32	27.36	31.92	31.95	31.97
25.0	25.20	29.66	29.71	29.74	34.05	34.09	34.12
25.5	25.70	31.54	31.59	31.62	36.89	36.93	36.98
26.0	26.20	33.13	33.17	33.21	39.61	39.71	39.76
26.5	26.70	35.00	35.03	35.08	43.19	43.27	43.35
27.0	27.20	37.62	37.62	37.64	47.87	47.98	48.05
27.5	27.70	39.53	39.50	39.57	53.68	53.73	53.54
28.0	28.20	40.45	40.45	40.42	59.71	59.12	58.32
28.5	28.70	41.17	41.19	41.23	55.56	54.76	54.17
29.0	29.20	40.41	40.45	40.50	51.07	50.67	50.40
29.5	29.70	38.32	38.41	38.46	49.56	49.32	49.05
30.0	30.20	36.52	36.62	36.67	50.43	50.06	49.88

Frequency Mixer

SMIQ-134H+

Typical Performance Data

LO (IN) (GHz)	LO-RF ISOLATION (dB)			LO-IF (I) ISOLATION (dB)			LO-IF (Q) ISOLATION (dB)		
	@TEMPERATURE (°C)			@TEMPERATURE (°C)			@TEMPERATURE (°C)		
	-55	+25	+100	-55	+25	+100	-55	+25	+100
10.0	41.99	42.56	42.99	33.40	33.89	34.21	38.65	38.62	38.34
10.5	42.37	42.74	43.03	34.29	34.93	35.47	38.40	38.50	38.45
11.0	42.12	42.44	42.72	34.67	35.39	35.97	37.79	38.23	38.31
11.5	40.45	40.90	41.36	35.83	36.31	36.81	37.26	37.65	37.86
12.0	39.89	40.61	41.31	35.77	36.71	37.43	37.16	37.66	37.94
12.5	39.86	40.61	41.30	36.41	37.42	38.30	36.51	37.19	37.58
13.0	40.45	41.30	42.00	36.57	37.85	38.83	36.87	37.39	37.76
13.5	40.08	40.75	41.42	37.59	38.93	40.19	36.21	36.92	37.36
14.0	39.70	40.56	41.46	39.41	40.66	41.97	36.38	37.20	37.78
14.5	39.16	40.24	41.35	41.96	43.13	44.36	37.46	38.13	38.67
15.0	39.40	40.51	41.78	44.44	45.62	46.68	37.48	38.22	38.84
15.5	39.13	40.80	42.12	45.52	46.58	47.79	38.54	39.21	39.79
16.0	40.53	41.51	42.50	46.97	48.39	49.88	40.04	40.57	40.95
16.5	39.49	40.77	41.84	48.41	50.04	52.02	40.24	40.77	41.22
17.0	40.05	41.07	42.06	50.10	52.29	54.72	40.45	41.28	41.93
17.5	40.31	41.08	41.83	52.67	54.59	56.40	40.66	41.70	42.54
18.0	39.43	40.20	40.89	53.36	55.13	57.15	42.13	43.25	44.30
18.5	38.51	39.29	40.01	54.54	57.13	60.85	45.30	46.29	47.47
19.0	38.00	38.65	39.36	64.18	72.34	73.44	48.69	49.83	51.01
19.5	38.11	38.52	39.20	72.05	64.85	61.01	51.06	53.00	55.16
20.0	37.21	37.87	38.54	64.88	60.04	57.31	60.66	65.64	66.49
20.5	35.59	36.63	37.54	54.65	52.73	51.31	63.50	59.05	56.20
21.0	35.28	36.69	37.98	48.91	48.16	47.45	54.62	51.82	49.88
21.5	36.35	37.49	38.59	44.89	45.62	46.14	47.22	46.40	45.45
22.0	36.88	38.13	39.43	43.95	44.85	45.57	43.37	43.27	43.32
22.5	37.77	39.26	40.29	43.94	44.78	46.00	40.77	41.46	42.36
23.0	38.52	39.42	40.07	43.84	45.03	46.11	41.38	42.54	43.55
23.5	38.47	39.20	39.95	44.80	46.00	46.68	43.56	44.51	45.34
24.0	36.43	37.76	39.02	44.44	45.51	45.86	44.78	45.73	46.31
24.5	36.94	38.41	39.66	44.59	44.95	45.21	46.15	47.01	47.51
25.0	37.70	39.09	40.13	44.31	44.57	44.60	47.91	48.59	49.01
25.5	37.95	39.10	39.97	43.21	43.50	43.52	49.11	49.52	48.83
26.0	37.69	38.62	39.48	42.36	42.36	42.50	50.73	49.73	48.77
26.5	37.70	38.39	39.19	41.63	41.79	41.93	49.77	48.49	47.72
27.0	37.34	38.02	38.89	41.04	41.35	41.38	47.33	46.71	46.47
27.5	36.79	37.79	38.70	40.42	40.63	40.77	45.88	45.77	46.07
28.0	36.17	37.37	38.45	39.44	39.70	39.96	44.28	45.09	45.12
28.5	35.96	37.28	38.45	39.28	39.46	39.73	42.98	43.82	44.06
29.0	36.34	37.68	38.89	39.45	39.67	39.90	42.73	43.55	44.01
29.5	36.77	38.09	39.33	38.52	38.99	39.15	43.39	43.87	44.60
30.0	37.01	38.39	39.82	38.08	38.36	38.68	44.62	44.86	45.66

Frequency Mixer

SMIQ-134H+

Typical Performance Data

LO (IN) (GHz)	LO (MHz)	RF-IF (I) ISOLATION (dB)			RF-IF (Q) ISOLATION (dB)		
		@TEMPERATURE (°C)			@TEMPERATURE (°C)		
		-55	+25	+100	-55	+25	+100
10.0	10.20	29.65	29.93	30.25	36.74	37.40	38.00
10.5	10.70	30.19	30.59	30.96	37.28	37.85	38.25
11.0	11.20	30.28	30.67	31.02	39.00	38.77	38.65
11.5	11.70	31.71	31.90	32.25	38.19	37.70	37.52
12.0	12.20	32.53	32.78	33.06	35.42	35.42	35.43
12.5	12.70	32.41	32.69	32.90	33.20	33.11	33.09
13.0	13.20	30.49	31.20	31.59	32.17	32.37	32.48
13.5	13.70	30.74	31.41	31.92	30.79	31.29	31.62
14.0	14.20	31.53	32.04	32.49	30.78	31.30	31.72
14.5	14.70	32.47	32.57	32.78	31.60	32.03	32.47
15.0	15.20	33.32	33.32	33.11	32.29	32.42	32.71
15.5	15.70	31.98	31.64	31.24	32.02	32.33	32.71
16.0	16.20	31.74	31.05	30.44	33.61	33.93	34.36
16.5	16.70	29.14	28.70	28.32	32.83	33.75	34.57
17.0	17.20	28.02	27.68	27.36	33.43	34.90	36.35
17.5	17.70	26.05	25.69	25.43	34.59	36.92	39.14
18.0	18.20	24.72	24.49	24.24	35.54	38.50	42.01
18.5	18.70	22.70	22.61	22.43	36.68	38.58	39.11
19.0	19.20	20.72	20.87	20.94	33.69	34.25	33.43
19.5	19.70	20.22	20.29	20.43	30.61	30.25	29.71
20.0	20.20	19.68	19.53	19.49	29.00	28.05	27.79
20.5	20.70	17.66	17.87	18.02	27.25	26.56	26.26
21.0	21.20	16.19	16.77	17.22	24.20	24.38	24.29
21.5	21.70	16.19	17.00	18.05	22.13	22.83	23.30
22.0	22.20	17.13	18.34	19.39	22.23	23.14	23.95
22.5	22.70	18.62	19.92	21.11	21.89	23.30	24.59
23.0	23.20	19.99	21.30	22.44	23.40	25.01	26.40
23.5	23.70	21.39	22.92	24.17	25.81	27.42	28.81
24.0	24.20	22.34	24.19	25.75	26.92	28.67	29.81
24.5	24.70	25.95	27.39	28.78	30.75	32.05	33.60
25.0	25.20	28.39	29.87	30.95	32.51	34.11	35.64
25.5	25.70	30.01	31.33	32.53	35.36	36.94	38.44
26.0	26.20	31.75	32.95	34.22	38.02	39.58	41.29
26.5	26.70	33.62	34.96	36.26	41.53	43.32	45.06
27.0	27.20	36.17	37.58	38.68	46.37	48.32	50.00
27.5	27.70	38.39	39.56	40.12	52.75	54.42	55.55
28.0	28.20	39.97	40.40	40.52	61.51	58.74	57.98
28.5	28.70	41.93	41.11	40.55	55.33	55.43	55.34
29.0	29.20	41.79	40.51	39.85	49.38	51.03	51.81
29.5	29.70	39.51	38.69	37.97	47.40	49.19	50.56
30.0	30.20	37.35	36.74	36.25	48.81	50.33	52.20

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=200 MHz (dB)			RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=1 GHz (dB)			RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=2 GHz (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
10	10.2	31.69	31.73	31.60	10	11	38.52	35.60	34.33	10	12	26.82	26.42	26.18
10.5	10.7	29.40	28.85	28.39	10.5	11.5	30.17	28.83	28.13	10.5	12.5	24.84	24.23	23.73
11	11.2	32.13	31.83	31.38	11	12	30.55	29.76	29.43	11	13	25.32	24.73	24.42
11.5	11.7	34.71	34.00	33.50	11.5	12.5	31.39	30.84	30.38	11.5	13.5	26.26	26.12	25.93
12	12.2	33.57	35.34	36.57	12	13	28.89	29.64	30.27	12	14	24.80	25.23	25.62
12.5	12.7	27.26	29.13	31.26	12.5	13.5	24.55	25.76	27.08	12.5	14.5	21.72	22.80	23.83
13	13.2	27.34	28.03	29.12	13	14	24.40	24.77	25.27	13	15	20.70	20.93	21.29
13.5	13.7	28.69	30.50	32.03	13.5	14.5	25.80	26.72	27.55	13.5	15.5	22.90	23.60	23.84
14	14.2	28.71	30.07	32.42	14	15	25.64	26.58	27.82	14	16	22.69	23.41	24.19
14.5	14.7	33.58	35.35	37.14	14.5	15.5	27.68	28.68	29.14	14.5	16.5	23.67	24.57	25.17
15	15.2	40.75	51.95	45.91	15	16	29.59	31.46	31.88	15	17	24.80	25.79	26.52
15.5	15.7	46.33	43.00	35.19	15.5	16.5	31.13	34.00	34.10	15.5	17.5	25.65	26.97	27.90
16	16.2	40.18	40.38	34.33	16	17	33.80	40.10	41.02	16	18	26.68	28.58	30.48
16.5	16.7	42.46	42.07	33.77	16.5	17.5	32.83	37.51	40.14	16.5	18.5	27.28	29.58	32.19
17	17.2	40.85	39.15	32.57	17	18	35.34	44.08	42.87	17	19	28.68	31.20	33.61
17.5	17.7	38.86	35.69	31.53	17.5	18.5	38.54	45.86	40.18	17.5	19.5	29.44	31.79	34.45
18	18.2	35.74	33.93	31.28	18	19	47.93	45.07	37.44	18	20	30.75	32.14	33.86
18.5	18.7	31.87	31.61	29.84	18.5	19.5	43.50	45.41	38.59	18.5	20.5	33.64	34.57	35.15
19	19.2	30.15	30.76	29.64	19	20	42.37	42.53	37.23	19	21	35.54	34.26	33.59
19.5	19.7	30.21	31.41	30.79	19.5	20.5	35.60	40.65	37.81	19.5	21.5	40.46	34.70	32.89
20	20.2	27.87	29.87	29.92	20	21	30.33	33.11	33.06	20	22	38.74	33.95	32.11
20.5	20.7	25.05	27.18	28.10	20.5	21.5	26.41	29.40	31.05	20.5	22.5	31.88	32.06	31.38
21	21.2	21.85	23.88	25.79	21	22	23.61	26.10	28.22	21	23	28.06	29.67	31.02
21.5	21.7	20.49	22.30	23.98	21.5	22.5	20.97	22.94	24.80	21.5	23.5	25.07	26.64	28.05
22	22.2	20.86	22.25	23.30	22	23	21.11	22.87	24.30	22	24	24.04	25.20	26.30
22.5	22.7	22.08	23.70	24.93	22.5	23.5	23.17	25.50	27.12	22.5	24.5	24.88	27.11	28.44
23	23.2	22.77	25.03	26.72	23	24	24.57	27.61	29.77	23	25	28.20	32.65	35.21
23.5	23.7	23.75	25.93	28.12	23.5	24.5	25.39	28.89	32.06	23.5	25.5	30.99	36.51	34.56
24	24.2	24.72	27.15	29.77	24	25	27.15	31.33	36.21	24	26	34.45	36.34	32.84
24.5	24.7	26.28	29.23	32.40	24.5	25.5	29.62	34.71	41.77	24.5	26.5	36.66	35.83	32.55
25	25.2	29.51	32.62	36.44	25	26	34.13	43.73	48.06	25	27	40.16	35.10	31.21
25.5	25.7	33.70	36.39	40.83	25.5	26.5	44.46	44.84	36.44	25.5	27.5	35.62	31.86	29.69
26	26.2	41.63	43.74	39.74	26	27	37.41	34.33	31.89	26	28	30.69	29.18	27.66
26.5	26.7	37.17	36.72	35.51	26.5	27.5	31.08	30.44	29.25	26.5	28.5	26.97	26.13	25.31
27	27.2	30.76	31.72	31.33	27	28	27.88	28.00	27.52	27	29	24.68	24.61	24.26
27.5	27.7	28.33	29.20	29.62	27.5	28.5	25.81	26.08	25.93	27.5	29.5	22.80	23.11	23.18
28	28.2	26.34	27.22	28.12	28	29	23.91	24.48	24.68	28	30	21.46	21.88	22.13
28.5	28.7	25.15	26.34	27.14	28.5	29.5	22.23	23.06	23.56	28.5	30.5	20.14	20.73	21.12
29	29.2	23.74	25.11	26.00	29	30	21.19	22.03	22.73	29	31	19.46	20.15	20.69
29.5	29.7	22.23	23.98	25.02	29.5	30.5	19.91	20.96	21.92	29.5	31.5	19.28	20.05	20.68
30	30.2	22.11	23.57	24.74	30	31	19.40	20.47	21.48	30	32	18.45	19.28	19.97

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=3 GHz (dB)			RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=4 GHz (dB)			RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=5 GHz (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
10	13	28.98	28.55	28.18	10	14	33.10	32.64	32.31	10	15	33.89	34.60	34.25
10.5	13.5	24.31	23.91	23.42	10.5	10.7	28.54	28.12	27.77	10.5	10.7	31.49	30.79	30.66
11	14	22.38	22.08	21.87	11	11.2	24.80	24.61	24.33	11	11.2	27.84	27.58	27.13
11.5	14.5	20.97	20.83	20.88	11.5	11.7	21.13	20.88	20.72	11.5	11.7	24.50	24.25	24.04
12	15	19.33	19.73	20.11	12	12.2	18.18	18.33	18.44	12	12.2	21.04	20.98	20.96
12.5	15.5	18.44	19.29	20.08	12.5	12.7	16.54	17.12	17.65	12.5	12.7	17.32	17.50	17.75
13	16	17.48	17.75	18.18	13	13.2	15.30	15.84	16.37	13	13.2	14.69	14.99	15.38
13.5	16.5	19.82	20.09	20.25	13.5	13.7	16.60	16.95	17.26	13.5	13.7	12.96	13.44	14.00
14	17	20.60	21.30	21.83	14	14.2	17.85	18.52	18.99	14	14.2	12.24	12.92	13.52
14.5	17.5	21.04	22.09	22.83	14.5	14.7	18.05	18.90	19.57	14.5	14.7	13.54	14.20	14.76
15	18	21.39	22.24	22.97	15	15.2	18.25	19.03	19.70	15	15.2	14.94	15.76	16.50
15.5	18.5	22.70	23.67	24.40	15.5	15.7	19.36	20.29	20.81	15.5	15.7	15.72	16.46	17.18
16	19	22.87	24.29	25.53	16	16.2	20.23	21.19	22.01	16	16.2	16.01	16.74	17.46
16.5	19.5	23.68	25.07	26.76	16.5	16.7	20.95	22.08	23.06	16.5	16.7	16.12	16.88	17.70
17	20	24.41	25.94	27.67	17	17.2	21.83	22.59	23.68	17	17.2	16.28	16.91	17.71
17.5	20.5	25.11	26.51	28.17	17.5	17.7	21.31	22.15	23.04	17.5	17.7	17.35	17.77	18.38
18	21	25.76	26.67	27.96	18	18.2	20.89	21.43	22.10	18	18.2	17.45	17.84	18.31
18.5	21.5	26.47	26.81	27.36	18.5	18.7	21.26	21.55	22.07	18.5	18.7	16.97	17.20	17.76
19	22	26.92	26.84	27.04	19	19.2	21.86	21.94	22.25	19	19.2	17.07	17.08	17.29
19.5	22.5	26.93	26.50	26.54	19.5	19.7	21.74	21.67	21.76	19.5	19.7	18.03	17.96	18.14
20	23	28.00	26.82	26.46	20	20.2	22.04	21.86	21.95	20	20.2	18.31	18.44	18.67
20.5	23.5	29.14	27.39	26.74	20.5	20.7	23.33	22.73	22.73	20.5	20.7	17.71	17.75	17.97
21	24	29.01	27.02	26.60	21	21.2	23.75	22.65	22.32	21	21.2	18.49	17.95	18.01
21.5	24.5	29.61	27.62	27.54	21.5	21.7	24.15	22.37	21.75	21.5	21.7	19.27	18.54	18.25
22	25	30.26	29.13	28.57	22	22.2	25.98	23.62	22.86	22	22.2	19.58	18.63	18.35
22.5	25.5	31.64	30.14	28.89	22.5	22.7	27.16	24.15	23.17	22.5	22.7	20.13	18.79	18.35
23	26	38.36	32.55	29.47	23	23.2	30.42	25.94	24.16	23	23.2	20.99	19.36	18.62
23.5	26.5	42.51	31.29	28.03	23.5	23.7	29.13	25.24	23.51	23.5	23.7	21.47	19.87	18.97
24	27	38.82	30.61	27.54	24	24.2	26.71	23.96	22.50	24	24.2	20.87	19.63	18.93
24.5	27.5	31.92	27.94	25.99	24.5	24.7	25.41	23.40	22.25	24.5	24.7	18.88	17.89	17.30
25	28	28.70	26.95	25.47	25	25.2	23.27	22.26	21.31	25	25.2	17.39	16.72	16.30
25.5	28.5	27.24	26.05	24.97	25.5	25.7	20.94	20.25	19.70	25.5	25.7	16.07	15.66	15.37
26	29	25.41	24.55	23.80	26	26.2	20.27	19.89	19.36	26	26.2	15.77	15.55	15.39
26.5	29.5	23.02	22.76	22.25	26.5	26.7	19.16	19.06	18.80	26.5	26.7	15.85	15.83	15.71
27	30	21.70	21.72	21.54	27	27.2	18.37	18.48	18.41	27	27.2	15.59	15.71	15.69
27.5	30.5	19.74	20.02	20.15	27.5	27.7	18.35	18.64	18.68	27.5	27.7	15.31	15.53	15.68
28	31	18.87	19.45	19.64	28	28.2	17.88	18.15	18.34	28	28.2	14.98	15.30	15.48
28.5	31.5	19.24	19.80	20.10	28.5	28.7	17.13	17.57	17.83	28.5	28.7	15.02	15.36	15.60
29	32	18.76	19.39	19.79	29	29.2	16.93	17.46	17.84	29	29.2	14.98	15.30	15.69
29.5	32.5	18.43	19.12	19.76	29.5	29.7	17.09	17.58	18.06	29.5	29.7	13.96	14.40	14.84
30	33	17.73	18.55	19.20	30	30.2	16.56	17.13	17.68	30	30.2	12.66	13.19	13.62

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=6 GHz (dB)			RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=7 GHz (dB)		
		@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19
10	16	38.58	38.29	37.93	10	17	41.91	42.42	42.08
10.5	16.5	36.46	36.04	34.70	10.5	17.5	39.96	40.46	39.81
11	17	33.36	32.87	32.76	11	18	38.72	38.03	37.70
11.5	17.5	29.85	29.47	29.22	11.5	18.5	35.34	34.76	34.89
12	18	25.31	25.26	25.11	12	19	30.68	30.77	30.43
12.5	18.5	22.28	22.28	22.24	12.5	19.5	27.62	27.53	27.52
13	19	18.18	18.25	18.36	13	20	24.00	23.85	23.93
13.5	19.5	15.00	15.21	15.41	13.5	20.5	20.46	20.50	20.53
14	20	13.05	13.44	13.90	14	21	18.02	17.63	17.27
14.5	20.5	11.71	12.31	12.80	14.5	21.5	12.58	12.90	13.24
15	21	10.84	11.66	12.36	15	22	10.19	10.76	11.35
15.5	21.5	10.85	11.76	12.56	15.5	22.5	8.41	9.22	10.03
16	22	11.26	12.13	12.98	16	23	7.63	8.62	9.63
16.5	22.5	12.10	12.95	13.82	16.5	23.5	7.62	8.67	9.77
17	23	12.59	13.44	14.39	17	24	8.34	9.44	10.50
17.5	23.5	13.36	13.99	14.72	17.5	24.5	9.60	10.54	11.50
18	24	14.36	14.79	15.34	18	25	10.91	11.51	12.25
18.5	24.5	15.07	15.47	15.94	18.5	25.5	11.59	12.19	12.79
19	25	15.39	15.50	15.80	19	26	12.01	12.52	13.05
19.5	25.5	15.18	15.36	15.63	19.5	26.5	12.56	12.97	13.51
20	26	15.27	15.54	15.86	20	27	13.23	13.64	14.07
20.5	26.5	15.62	15.69	15.95	20.5	27.5	13.41	13.68	13.99
21	27	16.40	16.28	16.35	21	28	14.07	14.20	14.43
21.5	27.5	16.83	16.38	16.28	21.5	28.5	14.24	14.12	14.23
22	28	17.45	16.80	16.58	22	29	14.88	14.56	14.54
22.5	28.5	17.41	16.53	16.27	22.5	29.5	14.09	13.70	13.60
23	29	17.37	16.38	15.89	23	30	14.49	13.89	13.64
23.5	29.5	16.64	15.53	14.97	23.5	30.5	14.12	13.54	13.25
24	30	16.51	15.58	15.04	24	31	13.64	13.12	12.80
24.5	30.5	15.57	14.90	14.54	24.5	31.5	13.40	13.01	12.81
25	31	15.15	14.54	14.20	25	32	12.79	12.53	12.31
25.5	31.5	14.55	14.21	13.90	25.5	32.5	12.47	12.32	12.16
26	32	13.72	13.63	13.45	26	33	12.11	12.10	11.99
26.5	32.5	13.44	13.53	13.42	26.5	33.5	11.40	11.50	11.46
27	33	13.43	13.69	13.72	27	34	10.82	11.04	11.13
27.5	33.5	13.21	13.44	13.58	27.5	34.5	10.30	10.66	10.85
28	34	12.87	13.18	13.37	28	35	9.23	9.74	10.09
28.5	34.5	12.41	12.87	13.09	28.5	35.5	7.74	8.25	8.65
29	35	11.48	11.87	12.19	29	36	5.63	6.16	6.54
29.5	35.5	9.91	10.44	10.79	29.5	36.5	3.79	4.37	4.81
30	36	7.91	8.43	8.82	30	37	3.36	3.96	4.44

Typical Performance Data

RF (GHz)	LO (GHz)	Image Rejection (Downconverter Mode) IF Fixed @IF=200 MHz (dB)			RF (GHz)	LO (GHz)	Single-Sideband Rejection (Upconverter Mode) IF Fixed @IF=200 MHz (dB)		
		LO = +18 dBm @ TEMPERATURE					LO = +18 dBm @ TEMPERATURE		
		-55°C	+25°C	+100°C			-55°C	+25°C	+100°C
10	10.2	31.35	31.73	32.08	10	10.2	28.26	27.70	27.58
10.5	10.7	26.81	28.85	29.37	10.5	10.7	29.92	28.34	27.88
11	11.2	32.06	31.83	33.56	11	11.2	29.03	30.14	29.79
11.5	11.7	33.07	34.00	34.26	11.5	11.7	30.94	30.73	30.16
12	12.2	37.07	35.34	35.67	12	12.2	30.36	30.47	29.98
12.5	12.7	28.44	29.13	29.87	12.5	12.7	26.97	27.11	27.08
13	13.2	26.23	28.03	29.79	13	13.2	24.51	25.73	26.71
13.5	13.7	28.29	30.50	32.24	13.5	13.7	28.53	29.46	30.02
14	14.2	27.98	30.07	32.57	14	14.2	31.34	31.66	31.66
14.5	14.7	31.99	35.35	38.19	14.5	14.7	31.41	32.13	31.89
15	15.2	44.74	51.95	48.83	15	15.2	29.59	31.21	31.55
15.5	15.7	41.69	43.00	41.55	15.5	15.7	29.36	31.24	32.03
16	16.2	37.94	40.38	40.49	16	16.2	29.80	31.06	31.89
16.5	16.7	44.88	42.07	40.28	16.5	16.7	29.78	30.48	31.54
17	17.2	42.59	39.15	37.99	17	17.2	29.95	30.55	31.65
17.5	17.7	37.94	35.69	34.96	17.5	17.7	29.06	30.24	31.63
18	18.2	36.84	33.93	33.39	18	18.2	28.53	29.81	31.15
18.5	18.7	32.96	31.61	31.53	18.5	18.7	27.61	28.82	30.16
19	19.2	32.17	30.76	31.10	19	19.2	27.19	28.66	30.37
19.5	19.7	32.56	31.41	30.52	19.5	19.7	26.92	28.51	30.63
20	20.2	32.19	29.87	29.46	20	20.2	27.47	29.57	31.59
20.5	20.7	28.49	27.18	27.00	20.5	20.7	30.07	31.27	32.85
21	21.2	24.64	23.88	24.50	21	21.2	31.79	32.59	34.26
21.5	21.7	21.85	22.30	23.30	21.5	21.7	34.62	35.11	35.57
22	22.2	20.95	22.25	23.62	22	22.2	36.38	35.34	34.75
22.5	22.7	22.36	23.70	25.48	22.5	22.7	37.62	35.54	33.90
23	23.2	24.26	25.03	26.66	23	23.2	37.50	34.57	32.52
23.5	23.7	24.45	25.93	28.15	23.5	23.7	35.79	34.06	31.82
24	24.2	25.07	27.15	29.78	24	24.2	36.76	34.06	31.03
24.5	24.7	26.85	29.23	32.81	24.5	24.7	35.15	32.50	29.76
25	25.2	29.11	32.62	36.60	25	25.2	32.19	30.33	28.17
25.5	25.7	32.44	36.39	42.63	25.5	25.7	29.52	28.30	26.57
26	26.2	40.36	43.74	37.67	26	26.2	26.88	26.09	24.78
26.5	26.7	43.15	36.72	34.24	26.5	26.7	24.73	24.42	23.57
27	27.2	33.94	31.72	30.49	27	27.2	23.42	23.30	22.70
27.5	27.7	30.76	29.20	28.90	27.5	27.7	22.21	22.02	21.76
28	28.2	28.49	27.22	27.11	28	28.2	21.34	21.36	21.24
28.5	28.7	26.80	26.34	25.54	28.5	28.7	20.86	21.05	20.98
29	29.2	25.45	25.11	25.19	29	29.2	20.70	20.91	20.92
29.5	29.7	24.37	23.98	23.38	29.5	29.7	20.69	20.78	20.86
30	30.2	23.76	23.57	23.58	30	30.2	20.72	20.74	20.88

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	LO (GHz)	Single-Sideband Rejection (Upconverter Mode) IF Fixed @IF=200 MHz (dB)			RF (GHz)	LO (GHz)	Single-Sideband Rejection (Upconverter Mode) IF Fixed @IF=1 GHz (dB)			RF (GHz)	LO (GHz)	Single-Sideband Rejection (Upconverter Mode) IF Fixed @IF=2 GHz (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
10	10.2	29.29	27.70	26.72	10	11	27.30	26.13	25.37	10	12	21.94	21.22	20.71
10.5	10.7	29.75	28.34	27.48	10.5	11.5	27.35	26.19	25.48	10.5	12.5	23.95	23.20	22.68
11	11.2	31.46	30.14	29.38	11	12	28.46	27.50	26.87	11	13	25.58	24.90	24.39
11.5	11.7	31.59	30.73	30.17	11.5	12.5	28.24	27.59	27.12	11.5	13.5	24.83	24.31	23.93
12	12.2	30.16	30.47	30.87	12	13	27.10	27.19	27.29	12	14	24.14	24.03	23.96
12.5	12.7	26.42	27.11	27.94	12.5	13.5	24.38	24.81	25.32	12.5	14.5	22.33	22.48	22.71
13	13.2	25.76	25.73	25.91	13	14	23.70	23.69	23.78	13	15	22.23	22.16	22.17
13.5	13.7	28.85	29.46	29.78	13.5	14.5	25.48	25.87	26.07	13.5	15.5	23.44	23.67	23.79
14	14.2	29.50	31.66	33.15	14	15	25.67	26.68	27.32	14	16	23.23	23.76	24.15
14.5	14.7	28.76	32.13	34.93	14.5	15.5	25.56	27.15	28.18	14.5	16.5	22.61	23.38	23.84
15	15.2	27.52	31.21	35.16	15	16	25.15	27.15	28.79	15	17	22.01	23.22	24.02
15.5	15.7	27.41	31.24	35.84	15.5	16.5	24.32	26.51	28.73	15.5	17.5	21.69	23.24	24.56
16	16.2	26.88	31.06	36.26	16	17	23.14	25.44	27.93	16	18	21.18	22.78	24.44
16.5	16.7	26.41	30.48	36.12	16.5	17.5	21.93	24.18	26.73	16.5	18.5	20.61	22.22	23.98
17	17.2	26.46	30.55	36.22	17	18	21.44	23.64	26.13	17	19	20.23	21.82	23.60
17.5	17.7	26.29	30.24	35.80	17.5	18.5	21.80	23.95	26.33	17.5	19.5	19.80	21.33	22.98
18	18.2	26.44	29.81	34.26	18	19	22.72	24.76	27.04	18	20	19.38	20.83	22.31
18.5	18.7	26.11	28.82	32.31	18.5	19.5	23.66	25.54	27.75	18.5	20.5	19.58	20.79	22.11
19	19.2	26.16	28.66	31.90	19	20	23.62	25.17	27.00	19	21	20.86	21.91	23.06
19.5	19.7	26.11	28.51	31.71	19.5	20.5	23.26	24.74	26.49	19.5	21.5	22.42	23.39	24.51
20	20.2	26.99	29.57	32.56	20	21	23.93	25.58	27.31	20	22	23.32	24.24	25.19
20.5	20.7	28.13	31.27	34.11	20.5	21.5	26.24	27.83	29.16	20.5	22.5	23.58	24.27	24.91
21	21.2	28.75	32.59	35.90	21	22	28.93	30.08	30.72	21	23	24.30	24.51	24.75
21.5	21.7	30.70	35.11	38.52	21.5	22.5	30.31	31.19	31.37	21.5	23.5	26.20	25.79	25.50
22	22.2	32.75	35.34	36.10	22	23	30.19	30.48	30.45	22	24	27.90	27.08	26.57
22.5	22.7	34.53	35.54	34.30	22.5	23.5	30.19	29.27	28.56	22.5	24.5	28.72	27.40	26.63
23	23.2	34.37	34.57	32.80	23	24	30.65	28.80	27.59	23	25	29.23	27.20	26.10
23.5	23.7	34.51	34.06	31.51	23.5	24.5	31.89	29.12	27.38	23.5	25.5	29.26	26.98	25.63
24	24.2	35.20	34.06	31.22	24	25	31.83	28.98	27.15	24	26	28.05	25.80	24.54
24.5	24.7	34.16	32.50	30.21	24.5	25.5	30.61	28.43	26.82	24.5	26.5	26.56	24.60	23.38
25	25.2	31.93	30.33	28.68	25	26	28.92	27.31	26.01	25	27	24.96	23.45	22.40
25.5	25.7	29.51	28.30	27.17	25.5	26.5	26.68	25.55	24.56	25.5	27.5	23.40	22.20	21.29
26	26.2	26.88	26.09	25.37	26	27	24.63	23.87	23.23	26	28	22.04	21.26	20.54
26.5	26.7	24.78	24.42	23.98	26.5	27.5	22.65	22.27	21.91	26.5	28.5	20.78	20.39	19.93
27	27.2	23.17	23.30	23.16	27	28	20.91	20.95	20.88	27	29	19.68	19.57	19.42
27.5	27.7	21.70	22.02	22.20	27.5	28.5	19.91	20.15	20.32	27.5	29.5	18.67	18.76	18.78
28	28.2	20.94	21.36	21.70	28	29	19.35	19.73	20.07	28	30	18.04	18.25	18.40
28.5	28.7	20.53	21.05	21.50	28.5	29.5	19.30	19.75	20.16	28.5	30.5	17.92	18.20	18.46
29	29.2	20.25	20.91	21.46	29	30	19.44	19.92	20.42	29	31	17.67	18.04	18.38
29.5	29.7	20.07	20.78	21.45	29.5	30.5	19.41	19.96	20.52	29.5	31.5	17.44	17.91	18.37
30	30.2	19.95	20.74	21.53	30	31	19.16	19.76	20.38	30	32	17.36	17.91	18.40



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Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	LO (GHz)	Single-Sideband Rejection (Upconverter Mode) IF Fixed @IF=3 GHz (dB)			RF (GHz)	LO (GHz)	Single-Sideband Rejection (Upconverter Mode) IF Fixed @IF=4 GHz (dB)			RF (GHz)	LO (GHz)	Single-Sideband Rejection (Upconverter Mode) IF Fixed @IF=5 GHz (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+17	+18	+19			+17	+18	+19			+17	+18	+19
10	13	12.46	12.07	11.78	10	14	2.81	2.62	2.52	10	15	3.39	-3.77	3.42
10.5	13.5	15.46	15.03	14.76	10.5	14.5	5.79	5.54	5.40	10.5	15.5	0.34	-0.48	0.51
11	14	19.12	18.77	18.52	11	15	10.05	9.84	9.74	11	16	3.70	3.52	3.48
11.5	14.5	21.26	20.99	20.74	11.5	15.5	13.55	13.43	13.35	11.5	16.5	6.48	6.41	6.39
12	15	22.14	22.07	21.97	12	16	16.29	16.37	16.38	12	17	9.00	9.13	9.27
12.5	15.5	21.20	21.22	21.30	12.5	16.5	17.02	17.07	17.17	12.5	17.5	10.74	10.92	11.14
13	16	21.09	21.00	20.96	13	17	17.93	17.74	17.60	13	18	13.21	13.21	13.20
13.5	16.5	21.05	21.25	21.36	13.5	17.5	18.40	18.43	18.45	13.5	18.5	16.00	15.99	15.93
14	17	20.23	20.60	20.95	14	18	18.04	18.22	18.39	14	19	17.50	17.52	17.48
14.5	17.5	19.97	20.42	20.70	14.5	18.5	18.29	18.54	18.64	14.5	19.5	17.85	18.03	18.08
15	18	19.85	20.73	21.27	15	19	18.50	19.09	19.45	15	20	17.24	17.77	18.04
15.5	18.5	19.53	20.69	21.66	15.5	19.5	18.21	19.00	19.67	15.5	20.5	16.65	17.33	17.87
16	19	19.47	20.74	22.00	16	20	17.48	18.38	19.21	16	21	16.64	17.40	18.11
16.5	19.5	19.44	20.79	22.23	16.5	20.5	16.92	17.84	18.78	16.5	21.5	17.20	17.94	18.67
17	20	18.93	20.20	21.60	17	21	17.40	18.33	19.35	17	22	17.57	18.32	19.11
17.5	20.5	18.45	19.66	20.92	17.5	21.5	18.21	19.13	20.05	17.5	22.5	17.39	18.14	18.90
18	21	18.54	19.71	20.86	18	22	18.67	19.44	20.18	18	23	17.17	17.87	18.53
18.5	21.5	18.84	19.88	20.99	18.5	22.5	18.34	19.05	19.69	18.5	23.5	17.02	17.66	18.24
19	22	19.28	20.11	21.00	19	23	17.72	18.32	18.97	19	24	16.78	17.34	17.90
19.5	22.5	19.59	20.35	21.21	19.5	23.5	17.04	17.64	18.29	19.5	24.5	16.40	16.90	17.50
20	23	20.07	20.82	21.61	20	24	16.80	17.32	17.91	20	25	16.20	16.68	17.17
20.5	23.5	21.07	21.64	22.14	20.5	24.5	17.75	18.04	18.37	20.5	25.5	16.56	16.90	17.17
21	24	22.16	22.31	22.45	21	25	19.25	19.18	19.14	21	26	17.22	17.39	17.49
21.5	24.5	23.42	23.19	22.96	21.5	25.5	20.94	20.59	20.26	21.5	26.5	18.11	18.11	17.99
22	25	24.17	23.74	23.39	22	26	21.89	21.31	20.85	22	27	18.97	18.73	18.42
22.5	25.5	25.17	24.23	23.69	22.5	26.5	21.93	21.09	20.59	22.5	27.5	19.43	18.99	18.63
23	26	26.41	24.89	24.05	23	27	21.80	20.82	20.21	23	28	19.60	18.98	18.56
23.5	26.5	26.65	25.03	24.03	23.5	27.5	21.67	20.55	19.85	23.5	28.5	19.67	18.94	18.46
24	27	25.48	23.99	23.05	24	28	21.55	20.45	19.74	24	29	19.67	18.94	18.39
24.5	27.5	23.90	22.48	21.61	24.5	28.5	21.39	20.31	19.63	24.5	29.5	19.77	19.06	18.51
25	28	22.11	20.93	20.14	25	29	20.77	19.79	19.12	25	30	19.97	19.32	18.78
25.5	28.5	20.99	20.02	19.28	25.5	29.5	19.98	19.17	18.59	25.5	30.5	19.78	19.26	18.82
26	29	20.36	19.68	19.13	26	30	19.04	18.44	17.94	26	31	18.79	18.40	18.03
26.5	29.5	19.74	19.35	19.01	26.5	30.5	18.32	17.89	17.53	26.5	31.5	17.48	17.23	16.94
27	30	19.17	19.05	18.92	27	31	17.61	17.38	17.19	27	32	16.20	16.09	15.96
27.5	30.5	18.44	18.49	18.52	27.5	31.5	16.73	16.69	16.67	27.5	32.5	15.50	15.53	15.56
28	31	17.54	17.71	17.86	28	32	16.03	16.14	16.24	28	33	15.08	15.26	15.40
28.5	31.5	16.58	16.84	17.08	28.5	32.5	15.52	15.73	15.96	28.5	33.5	14.59	14.88	15.13
29	32	15.94	16.32	16.69	29	33	15.16	15.42	15.77	29	34	14.49	14.86	15.20
29.5	32.5	15.96	16.44	16.89	29.5	33.5	14.84	15.21	15.63	29.5	34.5	14.79	15.26	15.69
30	33	16.10	16.67	17.24	30	34	14.85	15.37	15.84	30	35	15.45	15.98	16.49



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IF/RF MICROWAVE COMPONENTS

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)			GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)			GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)					
	IF = LO-RF = 200 MHz									IF = LO-RF = 1 GHz						IF = LO-RF = 2 GHz					
	@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			
10	-1.53	-1.40	-1.28	-1.83	-1.65	-1.50	-2.09	-1.90	-1.75	-2.21	-2.01	-1.83	-2.40	-2.26	-2.11	-2.24	-2.08	-1.92			
10.5	-1.55	-1.42	-1.31	-1.76	-1.60	-1.46	-2.04	-1.89	-1.75	-2.15	-1.96	-1.79	-2.25	-2.12	-2.00	-2.09	-1.97	-1.83			
11	-1.54	-1.41	-1.30	-1.65	-1.50	-1.37	-1.94	-1.81	-1.70	-2.02	-1.87	-1.72	-2.08	-1.95	-1.86	-1.89	-1.80	-1.70			
11.5	-1.47	-1.34	-1.22	-1.48	-1.34	-1.22	-1.79	-1.67	-1.57	-1.80	-1.69	-1.57	-1.87	-1.73	-1.65	-1.64	-1.59	-1.52			
12	-1.39	-1.26	-1.15	-1.32	-1.19	-1.09	-1.66	-1.54	-1.45	-1.57	-1.49	-1.40	-1.74	-1.54	-1.45	-1.43	-1.38	-1.33			
12.5	-1.31	-1.18	-1.08	-1.18	-1.07	-0.98	-1.57	-1.43	-1.34	-1.40	-1.33	-1.25	-1.72	-1.45	-1.32	-1.29	-1.24	-1.19			
13	-1.26	-1.14	-1.03	-1.08	-0.98	-0.90	-1.55	-1.36	-1.26	-1.28	-1.21	-1.15	-1.74	-1.41	-1.24	-1.20	-1.13	-1.08			
13.5	-1.21	-1.08	-0.98	-0.98	-0.89	-0.82	-1.51	-1.28	-1.15	-1.16	-1.09	-1.03	-1.73	-1.35	-1.15	-1.10	-1.03	-0.98			
14	-1.13	-1.01	-0.91	-0.87	-0.79	-0.73	-1.43	-1.17	-1.03	-1.04	-0.97	-0.91	-1.65	-1.24	-1.03	-0.99	-0.91	-0.87			
14.5	-1.00	-0.88	-0.79	-0.73	-0.67	-0.62	-1.29	-1.01	-0.88	-0.88	-0.82	-0.78	-1.51	-1.08	-0.87	-0.84	-0.78	-0.73			
15	-0.84	-0.72	-0.64	-0.56	-0.52	-0.49	-1.13	-0.84	-0.71	-0.70	-0.65	-0.62	-1.38	-0.94	-0.74	-0.70	-0.64	-0.61			
15.5	-0.75	-0.61	-0.53	-0.44	-0.41	-0.39	-1.04	-0.74	-0.61	-0.57	-0.52	-0.49	-1.32	-0.86	-0.67	-0.59	-0.54	-0.51			
16	-0.77	-0.60	-0.51	-0.39	-0.36	-0.34	-1.08	-0.76	-0.62	-0.53	-0.49	-0.46	-1.35	-0.88	-0.67	-0.54	-0.50	-0.48			
16.5	-0.89	-0.67	-0.56	-0.40	-0.37	-0.35	-1.19	-0.84	-0.68	-0.58	-0.53	-0.49	-1.47	-0.97	-0.73	-0.56	-0.51	-0.49			
17	-1.08	-0.80	-0.67	-0.48	-0.42	-0.39	-1.35	-0.97	-0.78	-0.67	-0.61	-0.57	-1.62	-1.08	-0.79	-0.61	-0.55	-0.53			
17.5	-1.24	-0.94	-0.77	-0.59	-0.52	-0.47	-1.51	-1.09	-0.87	-0.76	-0.70	-0.66	-1.76	-1.19	-0.84	-0.71	-0.60	-0.56			
18	-1.34	-1.01	-0.83	-0.68	-0.60	-0.55	-1.60	-1.15	-0.89	-0.80	-0.74	-0.71	-1.82	-1.25	-0.87	-0.80	-0.65	-0.60			
18.5	-1.39	-1.03	-0.85	-0.74	-0.66	-0.61	-1.67	-1.19	-0.89	-0.82	-0.74	-0.72	-1.84	-1.28	-0.90	-0.89	-0.70	-0.63			
19	-1.43	-1.06	-0.86	-0.80	-0.72	-0.67	-1.74	-1.24	-0.91	-0.88	-0.77	-0.73	-1.86	-1.32	-0.94	-1.00	-0.76	-0.68			
19.5	-1.48	-1.09	-0.86	-0.86	-0.76	-0.71	-1.77	-1.27	-0.93	-0.98	-0.82	-0.77	-1.86	-1.35	-0.99	-1.14	-0.86	-0.76			
20	-1.50	-1.08	-0.84	-0.89	-0.77	-0.72	-1.74	-1.25	-0.93	-1.08	-0.88	-0.81	-1.81	-1.33	-1.02	-1.25	-0.96	-0.85			
20.5	-1.43	-1.02	-0.77	-0.86	-0.74	-0.69	-1.64	-1.19	-0.91	-1.15	-0.93	-0.84	-1.68	-1.25	-0.98	-1.29	-0.99	-0.90			
21	-1.28	-0.90	-0.67	-0.79	-0.66	-0.62	-1.45	-1.06	-0.84	-1.11	-0.91	-0.84	-1.45	-1.08	-0.87	-1.19	-0.93	-0.86			
21.5	-1.09	-0.74	-0.55	-0.68	-0.56	-0.52	-1.18	-0.86	-0.69	-0.95	-0.79	-0.74	-1.17	-0.86	-0.71	-1.00	-0.79	-0.75			
22	-0.84	-0.55	-0.41	-0.52	-0.44	-0.41	-0.89	-0.63	-0.53	-0.72	-0.61	-0.60	-0.89	-0.64	-0.56	-0.79	-0.63	-0.61			
22.5	-0.63	-0.39	-0.30	-0.39	-0.33	-0.31	-0.65	-0.43	-0.38	-0.51	-0.44	-0.45	-0.67	-0.46	-0.43	-0.61	-0.48	-0.49			
23	-0.50	-0.29	-0.23	-0.30	-0.25	-0.24	-0.52	-0.31	-0.29	-0.40	-0.33	-0.36	-0.56	-0.38	-0.37	-0.52	-0.40	-0.42			
23.5	-0.40	-0.21	-0.16	-0.22	-0.17	-0.18	-0.44	-0.25	-0.24	-0.37	-0.29	-0.32	-0.52	-0.35	-0.36	-0.48	-0.37	-0.41			
24	-0.31	-0.14	-0.11	-0.16	-0.11	-0.13	-0.41	-0.23	-0.22	-0.39	-0.29	-0.32	-0.46	-0.32	-0.35	-0.42	-0.34	-0.39			
24.5	-0.25	-0.08	-0.06	-0.13	-0.07	-0.09	-0.37	-0.21	-0.22	-0.38	-0.29	-0.32	-0.37	-0.26	-0.31	-0.34	-0.28	-0.35			
25	-0.21	-0.04	-0.03	-0.10	-0.03	-0.05	-0.30	-0.18	-0.20	-0.33	-0.25	-0.30	-0.24	-0.17	-0.24	-0.23	-0.20	-0.29			
25.5	-0.18	-0.02	-0.01	-0.09	-0.01	-0.03	-0.23	-0.13	-0.17	-0.24	-0.19	-0.26	-0.10	-0.07	-0.15	-0.10	-0.10	-0.21			
26	-0.17	0.00	0.00	-0.10	0.00	-0.03	-0.17	-0.08	-0.13	-0.16	-0.13	-0.21	0.02	0.03	-0.06	0.01	0.00	-0.11			
26.5	-0.19	-0.02	-0.01	-0.14	-0.03	-0.05	-0.14	-0.06	-0.11	-0.12	-0.09	-0.17	0.07	0.07	-0.02	0.07	0.06	-0.05			
27	-0.24	-0.06	-0.05	-0.22	-0.09	-0.10	-0.15	-0.07	-0.11	-0.13	-0.09	-0.16	0.07	0.07	-0.01	0.08	0.08	-0.02			
27.5	-0.31	-0.12	-0.11	-0.31	-0.16	-0.17	-0.17	-0.09	-0.12	-0.15	-0.10	-0.16	0.04	0.05	-0.02	0.04	0.07	0.00			
28	-0.37	-0.18	-0.16	-0.38	-0.21	-0.21	-0.17	-0.09	-0.12	-0.17	-0.10	-0.14	0.00	0.03	-0.02	-0.05	0.04	0.00			
28.5	-0.42	-0.22	-0.19	-0.42	-0.24	-0.23	-0.16	-0.09	-0.10	-0.18	-0.08	-0.11	-0.04	0.02	-0.01	-0.17	-0.01	0.01			
29	-0.41	-0.22	-0.18	-0.41	-0.22	-0.19	-0.12	-0.04	-0.04	-0.19	-0.06	-0.06	-0.06	0.04	0.03	-0.30	-0.06	0.03			
29.5	-0.36	-0.18	-0.14	-0.35	-0.16	-0.13	-0.07	0.01	0.02	-0.19	-0.03	0.00	-0.05	0.07	0.08	-0.41	-0.10	0.06			
30	-0.31	-0.13	-0.09	-0.30	-0.11	-0.07	-0.03	0.06	0.07	-0.20	-0.01	0.04	-0.03	0.11	0.13	-0.50	-0.14	0.09			

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)			GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)			GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)					
	IF = LO-RF = 3 GHz									IF = LO-RF = 4 GHz						IF = LO-RF = 5 GHz					
	@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			
10	-1.75	-1.59	-1.45	-2.13	-1.93	-1.77	-2.36	-2.22	-2.14	-1.99	-1.93	-1.84	-2.21	-1.89	-1.84	-1.26	-1.49	-1.51			
10.5	-1.73	-1.57	-1.44	-2.06	-1.87	-1.72	-2.33	-2.12	-2.01	-1.86	-1.80	-1.73	-2.32	-1.95	-1.80	-1.27	-1.39	-1.39			
11	-1.69	-1.54	-1.41	-1.94	-1.77	-1.62	-2.27	-1.98	-1.85	-1.71	-1.65	-1.59	-2.46	-2.01	-1.75	-1.27	-1.27	-1.26			
11.5	-1.60	-1.47	-1.35	-1.77	-1.61	-1.48	-2.20	-1.82	-1.66	-1.53	-1.48	-1.42	-2.55	-2.00	-1.65	-1.20	-1.14	-1.11			
12	-1.50	-1.38	-1.27	-1.59	-1.46	-1.35	-2.13	-1.69	-1.49	-1.38	-1.32	-1.27	-2.58	-1.93	-1.52	-1.12	-1.04	-1.01			
12.5	-1.42	-1.30	-1.19	-1.43	-1.32	-1.23	-2.09	-1.60	-1.37	-1.29	-1.21	-1.16	-2.57	-1.84	-1.39	-1.04	-0.95	-0.92			
13	-1.39	-1.26	-1.15	-1.31	-1.21	-1.12	-2.06	-1.54	-1.28	-1.22	-1.14	-1.08	-2.52	-1.75	-1.27	-1.00	-0.89	-0.84			
13.5	-1.34	-1.20	-1.09	-1.19	-1.10	-1.03	-2.01	-1.46	-1.18	-1.13	-1.04	-0.98	-2.40	-1.63	-1.14	-0.97	-0.83	-0.77			
14	-1.25	-1.09	-0.99	-1.04	-0.96	-0.90	-1.91	-1.34	-1.06	-1.01	-0.92	-0.86	-2.26	-1.51	-1.03	-0.93	-0.78	-0.71			
14.5	-1.12	-0.94	-0.84	-0.86	-0.80	-0.75	-1.79	-1.22	-0.95	-0.89	-0.80	-0.75	-2.11	-1.39	-0.93	-0.89	-0.72	-0.64			
15	-0.97	-0.79	-0.69	-0.69	-0.65	-0.61	-1.67	-1.10	-0.84	-0.76	-0.68	-0.63	-1.99	-1.32	-0.87	-0.86	-0.67	-0.58			
15.5	-0.85	-0.65	-0.56	-0.55	-0.52	-0.49	-1.59	-1.04	-0.76	-0.67	-0.59	-0.55	-1.93	-1.31	-0.86	-0.88	-0.64	-0.54			
16	-0.86	-0.63	-0.52	-0.50	-0.46	-0.44	-1.62	-1.07	-0.76	-0.65	-0.55	-0.50	-1.96	-1.36	-0.89	-0.96	-0.65	-0.53			
16.5	-1.00	-0.73	-0.60	-0.54	-0.50	-0.46	-1.76	-1.19	-0.81	-0.69	-0.55	-0.49	-2.06	-1.46	-0.97	-1.13	-0.73	-0.57			
17	-1.18	-0.86	-0.71	-0.64	-0.58	-0.53	-1.93	-1.34	-0.88	-0.77	-0.57	-0.49	-2.18	-1.59	-1.08	-1.33	-0.86	-0.67			
17.5	-1.35	-1.00	-0.81	-0.75	-0.68	-0.62	-2.09	-1.47	-0.96	-0.91	-0.64	-0.53	-2.28	-1.69	-1.18	-1.52	-1.00	-0.78			
18	-1.44	-1.07	-0.87	-0.85	-0.76	-0.70	-2.15	-1.53	-1.03	-1.06	-0.74	-0.61	-2.33	-1.76	-1.26	-1.65	-1.12	-0.88			
18.5	-1.47	-1.08	-0.87	-0.90	-0.82	-0.76	-2.11	-1.53	-1.06	-1.21	-0.85	-0.71	-2.32	-1.78	-1.31	-1.72	-1.20	-0.95			
19	-1.51	-1.10	-0.86	-0.94	-0.86	-0.81	-2.04	-1.49	-1.07	-1.35	-0.95	-0.80	-2.25	-1.74	-1.32	-1.74	-1.26	-1.01			
19.5	-1.58	-1.13	-0.86	-0.99	-0.88	-0.83	-1.97	-1.46	-1.08	-1.48	-1.06	-0.90	-2.12	-1.64	-1.28	-1.74	-1.29	-1.06			
20	-1.59	-1.13	-0.84	-1.03	-0.90	-0.84	-1.85	-1.38	-1.06	-1.51	-1.10	-0.97	-1.93	-1.48	-1.19	-1.66	-1.26	-1.05			
20.5	-1.52	-1.08	-0.80	-1.03	-0.88	-0.82	-1.69	-1.26	-1.00	-1.42	-1.05	-0.95	-1.68	-1.29	-1.06	-1.49	-1.15	-0.98			
21	-1.37	-0.96	-0.71	-0.95	-0.81	-0.76	-1.49	-1.10	-0.89	-1.24	-0.94	-0.87	-1.41	-1.07	-0.92	-1.25	-0.98	-0.87			
21.5	-1.15	-0.80	-0.60	-0.82	-0.70	-0.66	-1.24	-0.90	-0.76	-1.03	-0.80	-0.77	-1.14	-0.84	-0.76	-0.97	-0.75	-0.70			
22	-0.90	-0.61	-0.48	-0.65	-0.57	-0.55	-0.97	-0.70	-0.63	-0.81	-0.64	-0.64	-0.86	-0.62	-0.60	-0.69	-0.50	-0.51			
22.5	-0.66	-0.43	-0.35	-0.48	-0.43	-0.43	-0.75	-0.53	-0.52	-0.65	-0.51	-0.53	-0.59	-0.41	-0.45	-0.45	-0.30	-0.35			
23	-0.50	-0.30	-0.25	-0.37	-0.33	-0.34	-0.59	-0.42	-0.45	-0.55	-0.43	-0.48	-0.37	-0.23	-0.31	-0.28	-0.15	-0.22			
23.5	-0.39	-0.21	-0.18	-0.31	-0.26	-0.29	-0.44	-0.32	-0.38	-0.43	-0.34	-0.41	-0.19	-0.09	-0.19	-0.16	-0.03	-0.12			
24	-0.31	-0.14	-0.12	-0.27	-0.22	-0.25	-0.30	-0.23	-0.31	-0.29	-0.23	-0.33	-0.04	0.02	-0.09	-0.06	0.06	-0.04			
24.5	-0.29	-0.11	-0.10	-0.26	-0.19	-0.22	-0.16	-0.12	-0.21	-0.13	-0.11	-0.22	0.06	0.11	-0.01	0.02	0.13	0.02			
25	-0.26	-0.10	-0.09	-0.23	-0.17	-0.21	0.00	0.00	-0.10	0.04	0.02	-0.11	0.11	0.15	0.04	0.05	0.17	0.07			
25.5	-0.23	-0.08	-0.07	-0.21	-0.14	-0.19	0.13	0.10	0.00	0.15	0.12	-0.01	0.12	0.16	0.07	0.05	0.19	0.11			
26	-0.21	-0.06	-0.07	-0.19	-0.13	-0.18	0.20	0.16	0.06	0.18	0.17	0.06	0.10	0.15	0.07	-0.02	0.17	0.13			
26.5	-0.20	-0.06	-0.07	-0.21	-0.15	-0.20	0.21	0.18	0.09	0.15	0.17	0.08	0.05	0.12	0.06	-0.18	0.07	0.11			
27	-0.23	-0.09	-0.10	-0.26	-0.18	-0.23	0.17	0.15	0.07	0.05	0.13	0.07	-0.01	0.07	0.03	-0.41	-0.10	0.05			
27.5	-0.30	-0.15	-0.15	-0.33	-0.24	-0.27	0.07	0.09	0.03	-0.12	0.05	0.05	-0.09	0.01	-0.01	-0.66	-0.31	-0.05			
28	-0.35	-0.20	-0.19	-0.39	-0.27	-0.29	-0.03	0.03	0.00	-0.30	-0.05	0.02	-0.14	-0.03	-0.04	-0.88	-0.52	-0.16			
28.5	-0.36	-0.22	-0.20	-0.39	-0.27	-0.27	-0.11	-0.02	-0.02	-0.50	-0.18	-0.02	-0.15	-0.05	-0.05	-0.90	-0.71	-0.29			
29	-0.33	-0.19	-0.16	-0.34	-0.21	-0.20	-0.13	-0.01	-0.01	-0.66	-0.31	-0.04	-0.10	-0.03	-0.03	-0.26	-0.71	-0.38			
29.5	-0.25	-0.13	-0.09	-0.25	-0.12	-0.10	-0.10	0.01	0.02	-0.75	-0.40	-0.05	-0.01	0.02	0.01	0.79	-0.59	-0.43			
30	-0.18	-0.06	-0.03	-0.16	-0.04	-0.01	-0.04	0.05	0.05	-0.79	-0.46	-0.05	0.08	0.07	0.05	1.86	-0.43	-0.46			

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)			GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)		
	IF = LO-RF = 6 GHz						IF = LO-RF = 7 GHz					
	@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)		
	+17	+18	+19	+17	+18	+19	+17	+18	+19	+17	+18	+19
10	-1.84	-1.57	-1.39	-0.88	-0.88	-0.90	-1.58	-1.23	-1.01	-0.48	-0.47	-0.49
10.5	-1.97	-1.67	-1.44	-0.91	-0.88	-0.88	-1.60	-1.26	-1.03	-0.53	-0.48	-0.48
11	-2.13	-1.77	-1.46	-0.94	-0.85	-0.84	-1.64	-1.32	-1.06	-0.59	-0.49	-0.47
11.5	-2.27	-1.85	-1.45	-0.96	-0.81	-0.78	-1.72	-1.42	-1.13	-0.70	-0.51	-0.44
12	-2.44	-1.94	-1.43	-0.99	-0.76	-0.71	-1.84	-1.58	-1.24	-0.88	-0.58	-0.42
12.5	-2.61	-2.04	-1.41	-1.04	-0.73	-0.64	-2.09	-1.83	-1.42	-1.13	-0.71	-0.46
13	-2.79	-2.13	-1.41	-1.15	-0.74	-0.61	-2.46	-2.18	-1.67	-1.42	-0.86	-0.50
13.5	-2.90	-2.18	-1.39	-1.27	-0.78	-0.59	-2.83	-2.50	-1.89	-1.75	-1.07	-0.59
14	-2.91	-2.18	-1.37	-1.42	-0.85	-0.61	-3.10	-2.69	-1.99	-2.02	-1.25	-0.69
14.5	-2.83	-2.13	-1.33	-1.55	-0.91	-0.63	-3.21	-2.73	-1.96	-2.19	-1.37	-0.75
15	-2.68	-2.03	-1.27	-1.67	-0.97	-0.64	-3.18	-2.65	-1.86	-2.28	-1.45	-0.81
15.5	-2.54	-1.93	-1.22	-1.77	-1.04	-0.67	-3.05	-2.50	-1.72	-2.38	-1.56	-0.91
16	-2.47	-1.89	-1.21	-1.88	-1.13	-0.73	-2.92	-2.39	-1.64	-2.46	-1.68	-1.01
16.5	-2.48	-1.91	-1.25	-2.02	-1.26	-0.82	-2.81	-2.33	-1.63	-2.56	-1.83	-1.13
17	-2.52	-1.97	-1.32	-2.16	-1.41	-0.94	-2.72	-2.28	-1.62	-2.57	-1.91	-1.22
17.5	-2.55	-2.02	-1.40	-2.28	-1.57	-1.07	-2.60	-2.19	-1.58	-2.48	-1.91	-1.23
18	-2.52	-2.03	-1.45	-2.32	-1.67	-1.15	-2.39	-2.01	-1.46	-2.28	-1.79	-1.17
18.5	-2.42	-1.96	-1.44	-2.26	-1.68	-1.18	-2.11	-1.75	-1.26	-1.99	-1.59	-1.03
19	-2.27	-1.84	-1.38	-2.10	-1.62	-1.16	-1.84	-1.49	-1.04	-1.69	-1.35	-0.85
19.5	-2.10	-1.69	-1.28	-1.87	-1.48	-1.08	-1.62	-1.24	-0.84	-1.43	-1.11	-0.67
20	-1.88	-1.48	-1.13	-1.59	-1.27	-0.95	-1.45	-1.04	-0.66	-1.22	-0.88	-0.50
20.5	-1.61	-1.22	-0.93	-1.31	-1.03	-0.79	-1.37	-0.91	-0.55	-1.06	-0.70	-0.37
21	-1.33	-0.95	-0.73	-1.05	-0.78	-0.61	-1.28	-0.80	-0.48	-0.94	-0.55	-0.28
21.5	-1.03	-0.68	-0.53	-0.81	-0.54	-0.43	-1.14	-0.66	-0.40	-0.82	-0.42	-0.21
22	-0.74	-0.43	-0.36	-0.57	-0.32	-0.26	-0.98	-0.51	-0.31	-0.73	-0.32	-0.14
22.5	-0.51	-0.24	-0.22	-0.36	-0.13	-0.12	-0.83	-0.38	-0.24	-0.68	-0.26	-0.08
23	-0.36	-0.11	-0.12	-0.22	0.01	-0.01	-0.73	-0.29	-0.18	-0.64	-0.21	-0.04
23.5	-0.26	-0.02	-0.05	-0.13	0.09	0.06	-0.69	-0.26	-0.15	-0.68	-0.23	-0.03
24	-0.20	0.03	-0.01	-0.13	0.12	0.09	-0.69	-0.27	-0.14	-0.78	-0.33	-0.06
24.5	-0.17	0.05	0.01	-0.21	0.08	0.09	-0.68	-0.27	-0.14	-0.95	-0.49	-0.15
25	-0.16	0.05	0.03	-0.35	-0.01	0.07	-0.63	-0.24	-0.11	-1.13	-0.69	-0.26
25.5	-0.17	0.04	0.04	-0.53	-0.16	0.02	-0.54	-0.18	-0.07	-1.33	-0.90	-0.39
26	-0.17	0.04	0.05	-0.72	-0.32	-0.04	-0.43	-0.11	-0.02	-1.48	-1.13	-0.57
26.5	-0.18	0.02	0.04	-0.91	-0.51	-0.13	-0.35	-0.06	0.00	-1.44	-1.35	-0.81
27	-0.20	0.01	0.03	-1.06	-0.72	-0.27	-0.32	-0.04	0.00	-0.69	-1.40	-1.07
27.5	-0.21	0.00	0.02	-1.05	-0.94	-0.49	-0.33	-0.06	-0.02	1.53	-0.52	-1.07
28	-0.18	0.00	0.01	-0.36	-1.02	-0.72	-0.34	-0.07	-0.04	4.07	1.95	0.40
28.5	-0.13	0.02	0.02	2.10	-0.13	-0.70	-0.37	-0.09	-0.03	6.38	4.37	2.84
29	-0.07	0.06	0.05	5.11	2.77	0.78	-0.41	-0.12	-0.02	8.26	6.61	5.10
29.5	-0.02	0.10	0.08	8.04	5.99	3.09	-0.45	-0.18	-0.02	8.99	8.51	7.31
30	0.02	0.13	0.10	10.78	9.26	5.47	-0.50	-0.23	-0.02	8.52	8.93	8.97

Typical Performance Data

RF (GHz)	LO (GHz)	GAIN COMPRESSION (I)			GAIN COMPRESSION (Q)		
		IF = LO-RF = 200 MHz					
		LO = +18 dBm @TEMPERATURE			LO = +18 dBm @TEMPERATURE		
		-55°C	+25°C	+100°C	-55°C	+25°C	+100°C
10	10.2	-1.25	-1.40	-1.69	-1.74	-1.65	-1.94
10.5	10.7	-1.32	-1.42	-1.71	-1.73	-1.60	-1.88
11	11.2	-1.37	-1.41	-1.69	-1.63	-1.50	-1.77
11.5	11.7	-1.33	-1.34	-1.61	-1.42	-1.34	-1.60
12	12.2	-1.28	-1.26	-1.53	-1.21	-1.19	-1.44
12.5	12.7	-1.19	-1.18	-1.45	-1.04	-1.07	-1.30
13	13.2	-1.11	-1.14	-1.39	-0.95	-0.98	-1.20
13.5	13.7	-1.03	-1.08	-1.32	-0.88	-0.89	-1.09
14	14.2	-0.95	-1.01	-1.23	-0.80	-0.79	-0.97
14.5	14.7	-0.86	-0.88	-1.09	-0.66	-0.67	-0.84
15	15.2	-0.73	-0.72	-0.94	-0.48	-0.52	-0.69
15.5	15.7	-0.60	-0.61	-0.85	-0.31	-0.41	-0.59
16	16.2	-0.53	-0.60	-0.85	-0.22	-0.36	-0.55
16.5	16.7	-0.52	-0.67	-0.93	-0.20	-0.37	-0.56
17	17.2	-0.63	-0.80	-1.07	-0.26	-0.42	-0.63
17.5	17.7	-0.78	-0.94	-1.18	-0.37	-0.52	-0.72
18	18.2	-0.92	-1.01	-1.25	-0.49	-0.60	-0.80
18.5	18.7	-1.03	-1.03	-1.28	-0.56	-0.66	-0.87
19	19.2	-1.09	-1.06	-1.31	-0.62	-0.72	-0.94
19.5	19.7	-1.14	-1.09	-1.32	-0.67	-0.76	-0.97
20	20.2	-1.15	-1.08	-1.28	-0.70	-0.77	-0.97
20.5	20.7	-1.07	-1.02	-1.18	-0.70	-0.74	-0.91
21	21.2	-0.92	-0.90	-1.03	-0.66	-0.66	-0.82
21.5	21.7	-0.75	-0.74	-0.84	-0.58	-0.56	-0.70
22	22.2	-0.59	-0.55	-0.65	-0.46	-0.44	-0.57
22.5	22.7	-0.45	-0.39	-0.49	-0.33	-0.33	-0.45
23	23.2	-0.36	-0.29	-0.39	-0.23	-0.25	-0.37
23.5	23.7	-0.27	-0.21	-0.31	-0.14	-0.17	-0.30
24	24.2	-0.15	-0.14	-0.25	-0.05	-0.11	-0.25
24.5	24.7	-0.04	-0.08	-0.21	0.02	-0.07	-0.21
25	25.2	0.05	-0.04	-0.19	0.07	-0.03	-0.19
25.5	25.7	0.09	-0.02	-0.17	0.10	-0.01	-0.18
26	26.2	0.12	0.00	-0.17	0.11	0.00	-0.19
26.5	26.7	0.12	-0.02	-0.20	0.10	-0.03	-0.23
27	27.2	0.07	-0.06	-0.25	0.05	-0.09	-0.29
27.5	27.7	-0.02	-0.12	-0.30	-0.04	-0.16	-0.34
28	28.2	-0.10	-0.18	-0.34	-0.12	-0.21	-0.37
28.5	28.7	-0.18	-0.22	-0.36	-0.20	-0.24	-0.37
29	29.2	-0.21	-0.22	-0.33	-0.23	-0.22	-0.33
29.5	29.7	-0.19	-0.18	-0.27	-0.22	-0.16	-0.25
30	30.2	-0.16	-0.13	-0.21	-0.19	-0.11	-0.20

Typical Performance Data

RF (GHz)	Input IP3 (I)			Input IP3 (Q)			Input IP3 (I)			Input IP3 (Q)		
	IF = LO-RF = 200 MHz						IF = LO-RF = 200 MHz					
	TEMPERATURE = +25°C @LO (dBm)			TEMPERATURE = +25°C @LO (dBm)			LO = +18 dBm @TEMPERATURE			LO = +18 dBm @TEMPERATURE		
	+17	+18	+19	+17	+18	+19	-55°C	+25°C	+100°C	-55°C	+25°C	+100°C
10	21.71	21.64	22.56	21.64	21.86	22.37	22.12	21.64	23.33	21.77	21.86	22.37
10.5	23.10	23.85	24.02	22.81	23.01	24.00	23.21	23.85	24.36	23.03	23.01	24.00
11	24.24	25.45	25.27	23.63	24.58	24.93	24.41	25.45	25.27	23.63	24.58	24.93
11.5	23.70	25.72	26.25	23.99	24.80	24.89	24.40	25.72	26.25	23.99	24.80	25.19
12	22.57	25.33	26.24	24.85	24.26	24.66	23.50	25.33	26.24	24.85	24.26	25.57
12.5	22.33	25.43	25.77	25.27	24.88	25.12	22.55	25.43	26.87	25.96	24.88	26.53
13	22.61	25.75	25.62	25.38	25.47	25.91	22.69	25.75	26.46	26.59	25.47	26.16
13.5	22.60	25.71	25.26	25.49	25.62	25.63	22.93	25.71	26.31	26.63	25.62	25.99
14	22.14	24.92	25.31	25.18	25.10	25.25	22.37	24.92	25.60	25.91	25.10	25.92
14.5	22.22	24.72	25.13	24.94	24.60	25.15	22.22	24.72	25.37	25.16	24.60	25.63
15	22.38	25.26	24.93	25.10	24.85	24.54	22.81	25.26	26.44	25.29	24.85	25.76
15.5	22.69	25.18	25.34	25.57	25.06	24.76	22.83	25.18	26.69	25.57	25.06	25.99
16	22.40	25.41	25.86	25.51	24.73	25.01	22.40	25.41	26.33	25.56	24.73	25.56
16.5	22.67	25.24	25.35	25.25	24.84	24.87	22.67	25.24	25.35	25.31	24.84	25.67
17	22.51	25.54	24.57	25.51	25.40	25.01	22.74	25.54	24.57	25.51	25.40	26.24
17.5	21.77	25.72	25.47	26.11	24.96	25.69	22.05	25.72	25.47	26.11	24.96	26.32
18	21.91	25.20	25.59	25.78	24.73	25.67	21.96	25.20	25.59	25.78	24.73	26.68
18.5	21.74	24.80	25.11	25.39	25.25	25.78	21.74	24.80	25.96	25.39	25.25	26.69
19	21.08	24.22	25.15	25.84	25.66	25.95	21.08	24.22	26.88	25.84	25.66	26.41
19.5	20.64	23.80	25.45	25.30	25.54	25.90	20.90	23.80	26.63	25.99	25.54	26.25
20	20.80	23.46	25.34	25.04	25.67	25.91	21.27	23.46	26.07	25.34	25.67	26.14
20.5	20.79	23.93	24.51	24.77	25.52	26.15	21.28	23.93	24.51	25.15	25.52	26.48
21	21.29	24.13	24.23	24.90	25.99	25.70	21.36	24.13	24.23	25.13	25.99	26.31
21.5	21.39	24.29	24.39	24.52	25.18	25.24	21.39	24.29	24.39	25.20	25.18	25.61
22	21.42	24.55	24.72	24.96	25.18	25.43	21.42	24.55	25.27	25.18	25.18	25.43
22.5	21.57	24.65	24.11	25.13	25.12	25.91	21.97	24.65	25.57	25.50	25.12	25.91
23	21.44	25.03	24.01	24.80	25.19	25.79	22.64	25.03	25.77	25.70	25.19	26.14
23.5	21.55	24.77	23.98	24.83	25.43	25.05	22.61	24.77	26.37	25.55	25.43	25.75
24	21.35	25.01	24.00	24.69	24.93	25.00	22.05	25.01	25.71	24.69	24.93	25.22
24.5	21.37	24.91	24.40	23.84	24.46	24.71	21.99	24.91	25.59	24.30	24.46	25.58
25	21.47	24.48	24.90	24.26	24.40	25.08	21.97	24.48	25.53	24.61	24.40	25.59
25.5	21.28	24.94	24.97	25.02	24.30	25.23	22.04	24.94	25.99	25.02	24.30	25.50
26	21.37	24.66	24.61	24.74	24.11	24.66	22.27	24.66	25.55	24.74	24.11	24.85
26.5	21.66	24.33	24.97	25.31	24.44	24.44	22.03	24.33	24.97	25.43	24.44	24.44
27	21.76	24.31	24.76	24.70	24.56	24.32	21.91	24.31	25.40	25.53	24.56	24.32
27.5	21.40	23.94	23.83	24.63	24.38	23.99	21.91	23.94	25.06	24.96	24.38	24.63
28	21.71	24.22	23.74	24.72	24.15	24.01	21.71	24.22	24.62	24.72	24.15	24.55
28.5	21.46	24.10	23.30	23.58	23.64	23.88	21.53	24.10	23.75	24.20	23.64	24.58
29	20.59	24.35	23.47	23.23	23.90	23.77	21.36	24.35	23.89	23.73	23.90	24.90
29.5	20.59	24.35	24.17	23.85	23.70	23.83	21.22	24.35	24.17	24.41	23.70	24.41
30	20.21	23.57	25.65	24.43	23.74	23.45	21.21	23.57	25.84	25.00	23.74	23.45

Frequency Mixer

SMIQ-134H+

Typical Performance Data

Temperature = +25°C

RF (GHz)	Input IP3 (I)								Input IP3 (Q)							
	IF = LO-RF															
	@LO = +18 dBm															
	IF = 200 MHz	IF = 1 GHz	IF = 2 GHz	IF = 3 GHz	IF = 4 GHz	IF = 5 GHz	IF = 6 GHz	IF = 7 GHz	IF = 200 MHz	IF = 1 GHz	IF = 2 GHz	IF = 3 GHz	IF = 4 GHz	IF = 5 GHz	IF = 6 GHz	IF = 7 GHz
10	21.64	23.55	25.76	23.10	22.14	21.63	21.38	22.62	21.86	22.96	24.14	23.24	22.46	22.08	22.82	25.07
10.5	23.85	25.29	25.53	23.35	22.60	22.01	21.85	22.85	23.01	23.62	24.97	23.82	22.80	22.22	24.02	26.75
11	25.45	26.03	25.22	23.47	23.00	22.53	22.44	22.47	24.58	24.60	25.58	24.32	22.70	22.57	24.99	27.35
11.5	25.72	25.17	25.31	23.60	23.33	23.05	22.87	21.75	24.80	26.15	25.51	24.49	23.26	23.62	26.46	27.41
12	25.33	25.14	25.50	23.51	23.79	23.59	22.46	20.88	24.26	26.56	25.64	24.11	24.25	24.79	27.23	28.04
12.5	25.43	25.47	24.85	23.41	24.35	24.11	21.90	20.28	24.88	26.38	25.64	24.00	24.93	25.72	27.56	27.37
13	25.75	25.05	24.57	23.68	24.62	23.99	21.28	20.22	25.47	26.33	25.23	24.29	25.12	26.50	26.67	26.36
13.5	25.71	23.93	25.26	23.76	24.48	23.61	21.08	20.28	25.62	26.10	24.79	24.57	25.43	26.30	26.45	25.55
14	24.92	24.38	25.68	23.93	24.30	23.17	21.57	20.55	25.10	26.20	25.45	25.43	25.70	25.92	26.36	25.25
14.5	24.72	25.26	25.58	24.61	24.20	23.45	22.12	21.43	24.60	26.42	26.35	26.61	26.02	26.07	25.84	25.30
15	25.26	25.46	25.81	24.98	24.00	24.10	22.34	22.20	24.85	26.78	26.98	26.81	26.05	26.98	26.02	25.24
15.5	25.18	25.05	26.12	24.73	24.26	25.18	23.08	22.67	25.06	27.05	27.43	26.77	25.94	27.48	26.46	25.18
16	25.41	25.47	25.84	23.96	24.69	24.91	23.34	22.61	24.73	27.14	27.56	26.76	25.87	27.55	26.24	24.76
16.5	25.24	25.60	25.26	23.74	24.96	24.99	23.54	22.58	24.84	27.85	27.11	27.08	26.46	27.73	25.57	24.37
17	25.54	24.87	24.21	23.94	25.11	24.88	23.38	22.48	25.40	27.97	26.99	27.29	26.82	27.70	25.09	23.58
17.5	25.72	24.27	23.66	24.10	24.63	24.71	23.08	22.29	24.96	28.02	27.18	27.22	26.40	26.65	24.37	22.94
18	25.20	23.54	24.01	24.41	24.82	24.32	22.85	22.21	24.73	27.97	27.18	27.19	26.51	25.91	23.91	22.54
18.5	24.80	23.31	24.67	25.13	24.58	24.49	22.93	22.47	25.25	27.74	27.56	26.89	25.80	25.01	23.68	22.50
19	24.22	23.52	24.99	24.91	24.60	24.48	22.79	22.73	25.66	28.02	26.90	26.25	25.51	24.48	23.38	22.65
19.5	23.80	24.03	25.37	24.85	24.81	24.47	22.57	22.90	25.54	28.25	25.87	25.77	25.61	23.91	22.98	22.84
20	23.46	24.05	25.16	24.63	24.40	24.01	22.44	22.96	25.67	26.92	25.67	25.23	25.01	23.27	22.93	22.98
20.5	23.93	24.16	24.85	23.92	23.96	23.54	22.55	23.49	25.52	25.74	25.33	24.89	24.46	22.89	22.57	23.35
21	24.13	24.75	25.16	24.22	24.30	23.58	22.94	24.14	25.99	25.35	25.38	24.44	24.69	22.91	22.73	23.76
21.5	24.29	24.85	25.14	25.09	24.96	24.10	23.57	24.77	25.18	26.21	25.45	25.06	24.64	23.21	23.57	24.32
22	24.55	25.09	25.66	25.59	25.38	24.45	24.08	24.78	25.18	27.03	26.04	25.77	24.63	23.56	24.22	24.76
22.5	24.65	25.59	26.73	25.69	25.12	24.59	24.47	24.68	25.12	27.47	26.48	25.67	24.71	23.72	24.79	25.25
23	25.03	26.26	26.17	25.44	25.21	24.59	24.49	25.18	25.19	27.12	25.99	25.23	24.32	23.93	24.43	25.87
23.5	24.77	25.80	25.55	25.47	25.20	24.57	23.90	25.54	25.43	26.68	25.45	24.72	24.48	23.84	24.29	26.42
24	25.01	25.32	25.81	25.08	25.32	24.15	23.27	25.60	24.93	26.11	25.43	24.92	25.10	23.62	24.14	26.23
24.5	24.91	25.31	25.45	25.01	24.44	23.79	23.60	25.96	24.46	25.43	25.00	24.55	24.41	23.43	24.04	25.63
25	24.48	25.02	25.94	24.75	23.52	23.55	24.10	26.28	24.40	25.82	25.09	24.54	23.83	23.52	24.80	26.41
25.5	24.94	25.53	25.70	24.02	23.72	23.38	24.47	27.05	24.30	26.13	25.39	24.28	23.36	23.63	25.25	27.03
26	24.66	25.60	25.23	23.71	23.84	23.33	24.88	27.37	24.11	26.14	25.01	24.46	23.53	23.89	26.35	25.75
26.5	24.33	25.23	24.94	23.50	23.23	23.92	25.73	27.13	24.44	25.12	24.64	23.86	23.39	24.20	27.18	23.80
27	24.31	24.42	24.45	23.39	23.02	24.80	25.55	27.26	24.56	25.05	23.97	23.49	23.51	25.28	26.65	20.62
27.5	23.94	23.87	23.94	22.86	23.40	24.95	25.32	26.01	24.38	24.62	23.26	22.91	23.51	25.97	24.92	17.04
28	24.22	23.69	23.75	22.57	24.11	24.80	25.69	26.04	24.15	24.19	23.20	22.94	24.06	25.83	21.84	14.56
28.5	24.10	22.82	23.01	22.48	24.00	24.61	25.05	25.63	23.64	23.54	22.82	22.86	24.89	25.04	18.19	9.84
29	24.35	22.47	23.09	23.49	24.62	25.00	24.99	26.25	23.90	23.45	23.13	24.23	25.53	23.24	15.57	8.31
29.5	24.35	23.06	23.95	24.64	25.57	25.74	25.87	26.47	23.70	23.65	24.03	26.13	25.91	20.85	10.53	13.93
30	23.57	23.29	24.56	25.23	26.83	26.77	26.09	25.28	23.74	23.23	24.47	27.52	25.63	18.43	5.53	17.87