

MMIC Amplifier

AVA-20453MP-D+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 3.00V, IDD = 300mA, VG = -0.45V@ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	24.55	54.35	13.18	6.71	11.49	0.83	21.29	14.22	8.38
18500.0	26.29	53.73	13.61	8.53	9.69	0.90	20.84	14.60	8.29
19000.0	27.75	53.11	14.57	11.39	8.35	0.95	20.85	14.95	8.24
19500.0	28.81	52.46	16.15	14.94	7.25	0.98	21.12	15.24	8.18
20000.0	29.54	51.93	18.51	17.47	6.42	0.99	21.68	15.47	8.16
20500.0	29.91	51.92	20.01	18.09	6.17	0.99	21.86	15.51	8.22
21000.0	30.01	52.41	18.22	17.44	6.40	0.99	21.76	15.45	8.24
21500.0	30.03	54.22	15.31	15.58	7.67	1.00	20.96	15.45	8.31
22000.0	30.44	56.19	13.82	15.21	9.07	1.00	21.18	15.41	8.33
22500.0	30.78	55.35	12.26	15.39	7.80	1.02	21.72	15.38	8.30
23000.0	30.91	54.45	11.21	15.27	6.82	1.03	22.46	15.65	8.29
23500.0	30.87	53.93	10.65	15.54	6.37	1.05	22.94	16.12	8.31
24000.0	30.86	53.41	10.90	16.92	6.06	1.06	22.87	16.13	8.29
24500.0	30.87	53.08	11.50	19.23	5.93	1.06	23.04	16.01	8.28
25000.0	30.84	52.84	12.01	20.51	5.88	1.05	23.23	15.91	8.32
25500.0	30.68	52.58	11.98	18.64	5.81	1.04	23.06	15.90	8.28
26000.0	30.34	52.28	11.02	15.79	5.67	1.04	22.74	16.23	8.40
26500.0	29.84	51.97	10.07	13.94	5.53	1.05	22.94	16.27	8.44
27000.0	29.33	51.79	9.51	13.23	5.58	1.06	22.90	15.93	8.47
27500.0	28.89	51.68	9.40	13.45	5.80	1.07	23.24	15.82	8.48
28000.0	28.55	52.08	9.90	14.58	6.54	1.06	23.14	15.43	8.55
28500.0	28.24	52.28	10.54	16.12	7.16	1.05	22.52	15.35	8.53
29000.0	27.88	52.58	11.31	17.92	7.88	1.05	22.48	15.37	8.46
29500.0	27.45	53.24	11.57	18.30	8.94	1.05	22.51	15.78	8.39
30000.0	26.99	54.13	11.16	16.67	10.26	1.05	22.70	15.80	8.48
30500.0	26.49	55.13	10.59	14.51	11.92	1.05	22.50	15.76	8.49
31000.0	26.08	56.75	10.18	12.77	14.68	1.03	22.30	15.56	8.58
31500.0	25.82	58.35	10.00	11.76	17.86	1.02	22.49	15.73	8.73
32000.0	25.68	59.93	10.42	11.45	21.78	1.01	22.47	15.62	8.65
32500.0	25.51	62.00	11.02	11.64	28.55	1.01	23.18	15.78	8.71
33000.0	25.37	62.00	12.08	12.30	29.92	1.00	23.54	15.66	8.68
34000.0	25.21	58.51	13.74	12.73	20.99	0.98	25.63	15.86	8.67
35000.0	25.26	58.19	14.17	11.64	19.80	0.97	25.78	16.34	8.67
36000.0	25.67	57.10	14.65	11.31	16.69	0.96	26.16	15.64	8.63
37000.0	25.80	58.28	15.12	12.52	19.30	0.97	27.52	15.99	8.55
38000.0	25.53	62.02	12.84	11.75	29.49	0.98	28.22	16.44	8.53
39000.0	24.82	66.98	9.76	9.13	50.46	0.97	29.17	16.67	8.75
40000.0	24.39	71.41	8.70	8.53	83.31	0.98	28.60	16.42	8.78
41000.0	24.91	61.15	10.01	10.37	26.61	1.00	27.75	16.69	8.46
42000.0	25.70	57.92	11.82	12.82	18.07	1.01	24.55	16.42	8.20
43000.0	25.65	65.56	11.50	11.24	42.55	0.99	23.11	15.72	7.96
44000.0	25.70	62.87	10.86	11.19	30.57	1.00	23.54	15.39	7.96
45000.0	27.02	54.87	12.69	14.29	11.30	1.01	24.68	14.91	8.01
46000.0	27.86	49.80	14.88	14.06	5.83	0.99	27.64	13.54	8.28
47000.0	25.29	47.40	11.74	23.03	5.95	1.06	31.98	12.47	8.85

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 3.50V, IDD = 300mA, VG = -0.45V@ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	22.25	54.35	12.83	6.58	14.81	0.83	24.38	16.48	8.60
18500.0	23.97	53.68	13.24	8.31	12.40	0.89	23.60	16.77	8.52
19000.0	25.45	53.06	14.18	10.95	10.67	0.95	23.52	17.11	8.47
19500.0	26.56	52.43	15.79	14.09	9.26	0.98	23.88	17.41	8.41
20000.0	27.34	51.92	18.15	16.17	8.17	0.99	24.67	17.62	8.38
20500.0	27.80	51.87	19.50	16.55	7.74	0.99	25.01	17.67	8.42
21000.0	27.98	52.39	17.65	16.06	7.98	0.99	24.46	17.60	8.42
21500.0	28.10	54.04	14.93	14.89	9.30	1.00	22.78	17.61	8.50
22000.0	28.50	56.08	13.35	14.88	11.08	1.01	23.20	17.60	8.51
22500.0	28.79	55.33	11.87	15.44	9.71	1.03	24.19	17.56	8.50
23000.0	28.88	54.59	10.93	15.92	8.71	1.05	25.46	17.91	8.51
23500.0	28.81	54.06	10.56	16.81	8.21	1.06	26.17	18.45	8.53
24000.0	28.73	53.55	10.90	18.92	7.92	1.07	26.01	18.51	8.51
24500.0	28.66	53.34	11.63	22.31	7.95	1.06	26.30	18.41	8.49
25000.0	28.51	53.14	12.22	24.25	8.01	1.05	26.74	18.35	8.52
25500.0	28.22	52.92	12.24	21.38	8.06	1.05	26.40	18.32	8.54
26000.0	27.78	52.58	11.32	18.00	7.97	1.05	25.92	18.66	8.61
26500.0	27.23	52.31	10.42	15.94	7.96	1.06	26.39	18.78	8.71
27000.0	26.68	52.07	9.92	15.04	8.07	1.07	26.16	18.44	8.74
27500.0	26.22	51.95	9.78	14.94	8.35	1.07	26.90	18.31	8.75
28000.0	25.85	52.35	10.27	15.66	9.33	1.06	26.41	17.90	8.82
28500.0	25.53	52.47	10.93	16.79	10.05	1.05	25.48	17.82	8.75
29000.0	25.19	52.92	11.74	18.40	11.24	1.05	25.84	17.79	8.75
29500.0	24.82	53.60	11.98	18.94	12.72	1.05	25.82	18.22	8.68
30000.0	24.41	54.59	11.44	17.22	14.68	1.05	26.64	18.18	8.68
30500.0	23.97	55.41	10.76	14.77	16.52	1.05	26.82	18.10	8.76
31000.0	23.61	56.48	10.23	12.78	18.92	1.03	27.20	17.87	8.85
31500.0	23.38	58.31	10.05	11.60	23.49	1.02	27.56	18.00	8.90
32000.0	23.27	59.61	10.42	11.19	27.59	1.01	27.31	17.88	8.88
32500.0	23.16	62.88	10.99	11.30	41.23	1.00	28.38	18.01	8.98
33000.0	23.07	61.79	12.02	11.88	37.81	0.99	28.78	17.89	8.95
34000.0	23.02	58.45	13.44	12.21	26.57	0.98	29.85	18.06	8.91
35000.0	23.04	57.54	13.63	10.96	23.31	0.96	29.87	18.46	8.91
36000.0	23.31	56.64	13.90	10.49	20.28	0.95	29.95	17.70	8.84
37000.0	23.34	58.05	14.48	11.67	24.50	0.96	30.74	18.10	8.81
38000.0	22.98	61.17	12.34	11.07	35.18	0.98	30.99	18.47	8.83
39000.0	22.15	67.70	9.62	8.69	73.08	0.96	32.05	18.71	9.05
40000.0	21.73	72.99	8.76	8.16	134.12	0.96	31.22	18.44	9.05
41000.0	22.31	61.29	10.26	9.92	36.28	0.98	31.03	18.71	8.78
42000.0	23.04	58.02	12.49	12.35	24.91	1.00	30.22	18.57	8.54
43000.0	23.08	65.24	12.11	11.03	55.43	0.98	31.71	17.96	8.32
44000.0	23.41	65.50	11.60	11.06	54.48	0.99	32.12	17.66	8.29
45000.0	24.91	54.21	13.55	14.24	13.46	1.00	32.19	17.30	8.31
46000.0	25.68	49.85	15.19	14.73	7.61	0.99	33.70	16.31	8.65
47000.0	22.91	47.79	11.63	23.16	8.14	1.06	33.89	15.54	9.25

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD= 4.00V, IDD = 300mA, VG = -0.45V@ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	20.36	54.26	12.56	6.41	17.95	0.82	26.95	17.79	8.83
18500.0	22.09	53.67	12.97	8.04	15.15	0.89	27.35	18.17	8.71
19000.0	23.59	53.11	13.91	10.50	13.12	0.94	26.49	18.55	8.69
19500.0	24.74	52.43	15.55	13.31	11.29	0.98	27.08	18.89	8.60
20000.0	25.56	51.91	17.92	15.05	9.93	0.98	27.78	19.14	8.59
20500.0	26.07	51.84	19.06	15.30	9.32	0.98	28.16	19.18	8.61
21000.0	26.31	52.30	17.23	14.96	9.48	0.99	28.02	19.15	8.64
21500.0	26.49	53.98	14.60	14.24	11.02	0.99	25.77	19.19	8.68
22000.0	26.89	55.97	13.02	14.54	13.08	1.01	26.73	19.17	8.73
22500.0	27.14	55.29	11.56	15.52	11.62	1.03	28.02	19.13	8.72
23000.0	27.20	54.64	10.79	16.66	10.63	1.05	29.51	19.47	8.71
23500.0	27.10	54.19	10.51	18.32	10.20	1.07	29.68	20.11	8.71
24000.0	26.95	53.69	10.96	21.44	9.93	1.07	29.62	20.17	8.75
24500.0	26.80	53.48	11.77	26.79	10.06	1.06	29.57	20.09	8.71
25000.0	26.56	53.32	12.42	29.77	10.27	1.05	29.57	19.97	8.79
25500.0	26.19	53.17	12.46	24.57	10.53	1.05	29.37	19.94	8.77
26000.0	25.71	52.82	11.57	20.54	10.49	1.06	29.16	20.27	8.85
26500.0	25.13	52.55	10.65	18.08	10.58	1.07	29.29	20.37	8.93
27000.0	24.55	52.32	10.15	16.73	10.80	1.07	29.21	20.07	9.01
27500.0	24.08	52.02	10.02	16.08	10.93	1.07	28.99	19.88	9.01
28000.0	23.69	52.33	10.54	16.18	12.01	1.06	29.01	19.46	9.04
28500.0	23.36	52.77	11.19	16.79	13.39	1.05	28.89	19.34	9.05
29000.0	23.05	53.27	11.95	18.09	14.99	1.04	29.02	19.25	9.03
29500.0	22.71	53.72	12.17	18.77	16.47	1.05	29.01	19.67	8.93
30000.0	22.34	54.34	11.62	17.29	18.17	1.05	28.91	19.59	8.91
30500.0	21.94	55.46	10.82	14.79	21.00	1.05	28.86	19.48	8.97
31000.0	21.60	57.07	10.34	12.66	25.51	1.03	29.08	19.24	9.09
31500.0	21.39	58.28	10.04	11.39	29.29	1.02	29.06	19.37	9.18
32000.0	21.30	60.80	10.42	10.90	39.47	1.00	29.09	19.18	9.13
32500.0	21.21	62.49	10.97	10.94	48.97	0.99	29.07	19.30	9.17
33000.0	21.16	61.64	11.93	11.45	45.84	0.99	28.94	19.11	9.18
34000.0	21.16	57.85	13.23	11.71	30.39	0.98	29.08	19.20	9.14
35000.0	21.16	57.09	13.27	10.41	27.06	0.95	28.88	19.62	9.12
36000.0	21.30	56.16	13.48	9.91	23.73	0.94	29.00	18.94	9.10
37000.0	21.25	58.08	14.08	11.07	30.80	0.96	29.87	19.30	9.08
38000.0	20.84	61.09	12.10	10.57	43.99	0.97	30.21	19.61	9.10
39000.0	19.94	67.08	9.51	8.36	86.35	0.95	31.90	18.96	9.34
40000.0	19.54	74.12	8.84	7.87	194.71	0.95	30.25	19.30	9.42
41000.0	20.15	61.94	10.53	9.56	49.85	0.97	29.81	19.83	9.09
42000.0	20.88	58.66	13.00	11.94	34.43	0.98	28.42	19.80	8.84
43000.0	20.99	66.32	12.78	10.79	80.15	0.96	28.32	19.27	8.62
44000.0	21.50	62.70	12.20	10.82	49.45	0.97	28.60	18.99	8.62
45000.0	23.12	54.75	14.12	13.97	17.61	1.00	29.43	18.73	8.63
46000.0	23.77	50.11	15.32	14.92	9.78	0.99	31.55	17.84	8.92
47000.0	20.76	47.86	11.62	20.99	10.47	1.06	33.10	17.10	9.66

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 4.50V, IDD = 300mA, VG = -0.45V @ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	19.05	54.28	12.40	6.18	20.54	0.81	26.89	18.57	9.13
18500.0	20.80	53.72	12.81	7.72	17.40	0.88	27.32	18.92	8.97
19000.0	22.33	53.05	13.78	10.01	14.87	0.94	27.26	19.33	8.89
19500.0	23.51	52.51	15.41	12.55	12.97	0.97	27.64	19.70	8.85
20000.0	24.37	51.93	17.75	14.03	11.31	0.97	28.04	20.06	8.80
20500.0	24.92	51.84	18.85	14.23	10.54	0.97	28.40	20.23	8.81
21000.0	25.21	52.24	16.97	14.04	10.57	0.98	28.99	20.23	8.83
21500.0	25.43	53.82	14.44	13.65	12.14	0.99	28.76	20.33	8.90
22000.0	25.82	55.91	12.85	14.20	14.61	1.01	29.31	20.03	8.93
22500.0	26.07	55.42	11.40	15.60	13.29	1.04	29.37	20.32	8.91
23000.0	26.11	54.69	10.74	17.45	12.12	1.06	29.54	20.86	8.91
23500.0	25.99	54.28	10.52	20.07	11.75	1.08	29.47	20.93	8.97
24000.0	25.81	53.88	11.02	24.81	11.64	1.07	29.36	21.13	8.96
24500.0	25.59	53.66	11.87	35.30	11.85	1.06	29.05	20.98	8.97
25000.0	25.29	53.55	12.57	35.56	12.25	1.05	28.87	20.98	9.00
25500.0	24.88	53.42	12.60	27.59	12.64	1.05	28.75	21.09	9.01
26000.0	24.35	53.05	11.73	23.54	12.66	1.06	28.54	21.13	9.10
26500.0	23.76	52.74	10.80	20.46	12.79	1.07	28.30	21.35	9.19
27000.0	23.18	52.32	10.30	18.34	12.78	1.08	28.01	21.24	9.24
27500.0	22.69	52.36	10.16	16.87	13.45	1.08	27.88	21.19	9.22
28000.0	22.28	52.44	10.67	16.31	14.35	1.06	27.72	20.96	9.33
28500.0	21.95	52.99	11.33	16.43	16.16	1.05	27.71	20.43	9.29
29000.0	21.65	53.46	12.13	17.43	18.00	1.04	27.65	20.21	9.25
29500.0	21.32	53.88	12.27	18.20	19.70	1.04	27.61	20.45	9.19
30000.0	20.98	54.62	11.71	17.05	21.96	1.05	27.63	20.53	9.19
30500.0	20.59	55.82	10.88	14.67	25.60	1.05	27.69	20.48	9.25
31000.0	20.27	56.79	10.31	12.49	28.70	1.03	27.85	20.14	9.37
31500.0	20.06	58.51	10.02	11.15	34.84	1.01	27.87	20.16	9.41
32000.0	19.98	60.84	10.39	10.61	45.85	1.00	27.91	19.95	9.39
32500.0	19.90	63.16	10.89	10.59	60.98	0.99	27.97	19.93	9.47
33000.0	19.88	61.38	11.82	11.04	51.10	0.98	27.86	19.79	9.41
34000.0	19.91	57.69	13.08	11.26	34.14	0.97	28.21	19.99	9.34
35000.0	19.87	56.65	13.03	9.97	29.45	0.95	28.04	20.44	9.36
36000.0	19.94	56.02	13.33	9.46	26.91	0.93	28.13	19.85	9.33
37000.0	19.85	57.58	13.98	10.59	33.79	0.95	29.17	20.08	9.37
38000.0	19.40	61.15	11.94	10.17	51.68	0.96	29.51	20.37	9.39
39000.0	18.48	68.14	9.52	8.08	114.26	0.94	31.46	20.57	9.62
40000.0	18.07	71.03	8.96	7.61	160.26	0.93	29.97	20.23	9.64
41000.0	18.73	62.23	10.70	9.23	60.37	0.95	29.59	20.26	9.42
42000.0	19.48	58.98	13.39	11.51	41.85	0.97	28.09	20.48	9.18
43000.0	19.66	65.11	13.06	10.46	81.04	0.96	27.74	19.92	8.95
44000.0	20.28	64.24	12.60	10.47	67.78	0.96	27.83	19.70	8.96
45000.0	22.03	55.10	14.50	13.43	20.76	0.99	28.70	19.66	8.95
46000.0	22.69	50.38	15.27	14.53	11.37	0.99	31.46	18.94	9.21
47000.0	19.57	47.87	11.66	18.89	11.95	1.05	33.65	18.22	10.08

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)
 Gain(Power Gain) = S21 (dB)
 Reverse Isolation = -S12 (dB)
 Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 5.00V, IDD = 300mA, VG = -0.45V@ Temperature = +25°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	17.71	54.22	12.25	5.98	23.40	0.80	27.08	19.25	9.31
18500.0	19.47	53.80	12.66	7.44	20.14	0.87	27.29	19.66	9.17
19000.0	21.02	53.08	13.64	9.57	17.11	0.93	27.16	20.11	9.12
19500.0	22.24	52.46	15.28	11.88	14.78	0.96	27.49	20.53	9.06
20000.0	23.13	51.89	17.60	13.17	12.84	0.97	27.82	20.90	8.95
20500.0	23.70	51.83	18.58	13.32	11.98	0.97	28.25	21.09	9.02
21000.0	24.04	52.19	16.72	13.19	11.91	0.97	28.65	21.15	9.02
21500.0	24.29	53.67	14.26	13.02	13.48	0.98	28.75	21.27	9.05
22000.0	24.69	55.83	12.66	13.74	16.39	1.01	28.93	21.06	9.14
22500.0	24.92	55.37	11.28	15.46	15.03	1.04	28.89	21.38	9.13
23000.0	24.94	54.84	10.68	17.98	14.12	1.07	29.03	21.85	9.13
23500.0	24.79	54.35	10.51	21.90	13.63	1.08	28.90	21.95	9.18
24000.0	24.58	53.98	11.06	29.94	13.61	1.08	28.71	22.20	9.16
24500.0	24.28	53.84	12.00	39.50	14.10	1.06	28.41	22.10	9.19
25000.0	23.93	53.69	12.73	29.40	14.57	1.05	28.04	22.07	9.20
25500.0	23.48	53.56	12.76	27.70	15.10	1.05	27.76	22.14	9.23
26000.0	22.92	53.26	11.87	27.12	15.37	1.06	27.56	22.14	9.30
26500.0	22.31	52.96	10.95	23.46	15.60	1.07	27.40	22.31	9.40
27000.0	21.73	52.49	10.43	19.87	15.53	1.08	27.33	22.18	9.45
27500.0	21.21	52.34	10.29	17.35	16.00	1.07	27.07	22.11	9.49
28000.0	20.81	52.62	10.81	16.13	17.40	1.06	27.10	21.83	9.53
28500.0	20.47	53.21	11.46	15.87	19.62	1.04	26.99	21.23	9.51
29000.0	20.17	53.44	12.23	16.63	21.22	1.04	27.12	20.98	9.48
29500.0	19.87	53.90	12.40	17.42	23.32	1.04	27.00	21.23	9.41
30000.0	19.55	54.84	11.70	16.60	26.50	1.04	27.07	21.30	9.44
30500.0	19.17	55.78	10.92	14.41	29.95	1.04	27.12	21.22	9.49
31000.0	18.87	56.79	10.31	12.26	33.60	1.03	27.35	20.87	9.59
31500.0	18.67	58.62	10.04	10.90	41.26	1.01	27.39	20.86	9.62
32000.0	18.59	60.28	10.34	10.31	50.02	0.99	27.40	20.63	9.60
32500.0	18.53	63.45	10.85	10.26	73.26	0.98	27.48	20.58	9.65
33000.0	18.52	61.36	11.74	10.65	59.06	0.98	27.33	20.41	9.65
34000.0	18.57	57.79	12.88	10.82	39.84	0.96	27.80	20.54	9.63
35000.0	18.48	56.78	12.86	9.57	34.64	0.94	27.67	21.00	9.60
36000.0	18.48	55.54	13.12	9.08	29.69	0.92	27.75	20.49	9.54
37000.0	18.36	57.38	13.88	10.18	38.81	0.94	28.82	20.65	9.59
38000.0	17.86	61.07	11.86	9.82	60.51	0.96	29.23	20.83	9.61
39000.0	16.89	66.89	9.50	7.83	117.36	0.93	31.43	21.07	9.89
40000.0	16.52	74.85	9.03	7.37	294.93	0.92	29.98	20.75	9.92
41000.0	17.21	61.42	10.96	8.93	65.20	0.94	29.68	20.72	9.65
42000.0	17.96	57.82	13.79	11.16	43.51	0.96	28.16	20.99	9.47
43000.0	18.20	66.04	13.39	10.18	106.34	0.95	27.80	20.55	9.24
44000.0	18.95	63.61	12.88	10.16	73.17	0.95	27.82	20.31	9.23
45000.0	20.78	55.00	14.79	12.99	23.59	0.98	28.75	20.28	9.25
46000.0	21.40	50.50	15.25	14.09	13.33	0.99	32.17	19.61	9.58
47000.0	18.12	48.00	11.82	17.19	14.30	1.05	34.53	18.88	10.45

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)
 Gain(Power Gain) = S21 (dB)
 Reverse Isolation = -S12 (dB)
 Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 3.00V, IDD = 300mA, VG = -0.45V@ Temperature = -45°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	32.01	55.27	14.88	5.53	5.07	0.74	21.52	13.38	7.56
18500.0	34.22	54.61	15.53	6.64	4.08	0.79	21.75	13.32	7.54
19000.0	36.04	54.37	16.40	8.81	3.62	0.86	22.17	13.31	7.43
19500.0	37.01	54.12	16.60	12.22	3.36	0.94	22.76	14.12	7.47
20000.0	37.44	53.58	16.96	15.73	3.11	0.98	23.32	14.63	7.45
20500.0	37.53	53.26	18.53	17.39	3.04	0.97	23.56	14.70	7.44
21000.0	37.55	53.15	19.21	17.97	3.02	0.97	23.23	14.32	7.47
21500.0	37.57	52.83	18.11	19.71	2.92	0.97	22.65	13.89	7.47
22000.0	37.60	52.67	16.21	20.06	2.84	0.98	22.43	13.98	7.54
22500.0	37.66	52.48	14.14	18.53	2.73	0.98	22.33	14.33	7.54
23000.0	37.69	51.96	11.81	16.09	2.48	0.99	22.62	14.48	7.50
23500.0	37.78	51.69	10.90	14.59	2.31	1.00	23.02	14.65	7.64
24000.0	37.95	51.44	10.69	14.20	2.15	1.02	23.20	14.74	7.58
24500.0	38.25	51.17	11.40	15.13	2.05	1.01	23.20	14.97	7.57
25000.0	38.63	50.81	12.57	15.33	1.97	0.97	23.12	15.04	7.57
25500.0	39.02	50.61	13.16	14.39	1.91	0.92	23.09	15.16	7.59
26000.0	39.25	50.47	10.85	12.55	1.75	0.93	23.28	15.21	7.52
26500.0	39.09	50.42	8.48	10.62	1.50	1.01	23.51	15.45	7.64
27000.0	38.77	50.58	7.18	10.03	1.42	1.07	23.67	15.28	7.72
27500.0	38.43	50.83	6.58	10.60	1.58	1.07	23.59	14.63	7.80
28000.0	38.18	50.93	6.95	11.44	1.81	1.02	23.42	14.47	7.81
28500.0	37.81	51.10	7.75	13.07	2.02	1.03	23.35	14.33	7.79
29000.0	37.24	51.65	8.39	14.55	2.25	1.07	23.27	13.92	7.73
29500.0	36.48	52.21	8.77	15.23	2.59	1.09	23.17	13.68	7.67
30000.0	35.71	52.99	8.98	14.81	3.14	1.08	23.45	13.75	7.84
30500.0	35.07	54.03	9.05	14.25	3.84	1.06	23.73	13.85	7.82
31000.0	34.58	54.86	9.50	13.79	4.51	1.04	23.66	13.89	7.83
31500.0	34.13	55.66	10.44	13.11	5.24	1.02	23.63	13.91	7.91
32000.0	33.74	57.06	11.36	13.15	6.47	1.02	23.52	13.94	7.84
32500.0	33.35	58.92	11.29	13.20	8.34	1.03	23.45	13.85	7.73
33000.0	32.88	59.87	11.14	11.88	9.70	1.00	23.40	14.13	7.75
34000.0	32.04	59.52	10.49	10.77	9.92	0.99	24.10	14.46	7.98
35000.0	31.95	59.49	13.82	12.98	10.82	0.99	24.15	14.71	7.97
36000.0	32.38	60.32	16.53	17.10	12.00	1.00	22.98	14.51	7.82
37000.0	32.85	61.97	13.41	14.26	13.11	1.01	22.73	14.28	8.06
38000.0	33.13	67.07	13.02	13.29	22.52	1.00	23.93	14.60	8.18
39000.0	33.30	70.61	13.82	14.48	33.90	1.00	25.72	14.85	8.12
40000.0	33.12	66.09	11.33	11.61	19.24	1.00	25.03	14.61	7.90
41000.0	32.95	61.77	9.32	9.33	10.83	0.98	25.42	14.91	7.92
42000.0	33.68	56.67	9.82	10.69	5.72	1.02	24.32	15.07	7.61
43000.0	34.86	54.94	9.84	11.05	4.27	1.00	23.49	14.43	7.28
44000.0	34.32	60.73	7.01	9.38	7.42	1.06	24.39	14.87	7.26
45000.0	34.06	61.45	7.01	9.89	8.57	1.06	24.98	14.81	7.30
46000.0	35.81	52.07	9.52	8.64	2.45	0.97	24.62	14.50	7.10
47000.0	39.70	44.91	15.74	6.38	1.04	0.40	19.69	14.83	6.94

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 3.50V, IDD = 300mA, VG = -0.45V@ Temperature = -45°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	30.79	55.22	14.91	5.68	5.86	0.76	23.59	14.37	7.65
18500.0	32.82	54.54	15.43	6.90	4.79	0.81	23.99	14.41	7.59
19000.0	34.41	54.30	16.30	9.12	4.33	0.88	24.69	14.65	7.54
19500.0	35.32	54.04	16.56	12.35	4.04	0.95	25.18	15.04	7.49
20000.0	35.81	53.49	16.75	15.61	3.69	0.98	25.56	15.47	7.49
20500.0	35.99	53.19	18.34	16.78	3.55	0.98	25.77	15.74	7.44
21000.0	36.12	53.01	18.87	16.87	3.46	0.97	25.70	15.70	7.52
21500.0	36.23	52.82	17.54	17.90	3.35	0.97	25.10	15.59	7.57
22000.0	36.34	52.67	15.59	18.26	3.24	0.98	24.89	15.50	7.66
22500.0	36.48	52.60	13.58	17.82	3.11	0.99	24.85	15.65	7.60
23000.0	36.57	51.97	11.31	16.31	2.78	1.01	25.13	15.82	7.62
23500.0	36.69	51.78	10.55	15.26	2.61	1.02	25.39	15.95	7.73
24000.0	36.91	51.49	10.42	15.15	2.42	1.04	25.40	15.90	7.74
24500.0	37.19	51.23	11.20	16.49	2.33	1.03	25.13	15.89	7.76
25000.0	37.53	50.90	12.46	16.94	2.25	0.99	25.06	15.79	7.78
25500.0	37.83	50.81	13.00	15.89	2.21	0.96	25.15	15.89	7.79
26000.0	37.85	50.70	10.62	13.99	2.06	0.98	25.41	15.92	7.75
26500.0	37.51	50.72	8.37	12.11	1.87	1.06	25.56	15.93	7.85
27000.0	37.08	50.88	7.30	11.68	1.85	1.11	25.65	15.68	7.94
27500.0	36.63	51.12	6.83	12.53	2.04	1.12	25.64	15.55	8.01
28000.0	36.28	51.27	7.42	13.51	2.34	1.08	25.60	15.59	8.06
28500.0	35.88	51.40	8.46	15.41	2.63	1.06	25.48	15.52	8.10
29000.0	35.27	51.86	9.11	17.17	2.98	1.08	25.40	15.48	7.93
29500.0	34.53	52.58	9.33	17.60	3.48	1.09	25.22	15.50	7.87
30000.0	33.83	53.24	9.39	16.35	4.06	1.08	25.47	15.55	7.98
30500.0	33.21	54.16	9.35	15.06	4.84	1.07	25.61	15.64	7.89
31000.0	32.78	54.75	9.75	14.05	5.49	1.05	25.62	15.65	7.90
31500.0	32.39	56.14	10.75	13.06	6.79	1.02	25.56	15.65	7.93
32000.0	32.06	57.06	11.76	13.13	7.90	1.01	25.49	15.67	7.85
32500.0	31.76	59.44	11.57	13.18	10.68	1.02	25.39	15.55	7.79
33000.0	31.37	59.88	11.37	11.88	11.58	1.00	25.27	15.78	7.77
34000.0	30.63	59.96	10.57	10.62	12.25	0.99	25.62	15.98	7.94
35000.0	30.65	60.05	13.90	12.50	13.34	0.98	25.87	16.17	7.96
36000.0	31.16	60.24	16.66	16.15	13.62	0.99	24.71	15.95	7.66
37000.0	31.53	62.12	12.79	13.22	15.25	1.00	25.18	15.66	7.64
38000.0	31.66	66.38	12.29	11.84	23.91	0.99	25.97	15.77	7.54
39000.0	31.76	73.14	13.21	12.84	52.92	0.99	27.94	15.87	7.40
40000.0	31.44	70.24	10.68	10.37	36.21	0.98	27.35	15.69	7.20
41000.0	31.17	62.31	8.93	8.57	13.65	0.97	27.74	15.98	7.37
42000.0	31.93	57.69	9.85	10.18	7.80	1.00	27.04	16.22	7.07
43000.0	32.94	56.76	10.12	10.77	6.51	0.99	27.38	15.78	6.64
44000.0	32.42	61.55	7.50	9.66	10.45	1.05	28.45	16.39	6.60
45000.0	32.52	59.36	7.56	10.31	8.35	1.05	28.98	16.24	6.80
46000.0	34.57	50.97	10.70	9.08	2.63	0.96	28.95	15.93	7.06
47000.0	38.22	44.96	20.02	7.75	1.16	0.59	25.81	15.80	7.73

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 4.00V, IDD =300mA, VG = -0.45V@ Temperature = -45°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	27.93	54.96	14.60	5.83	7.96	0.77	25.56	16.12	7.67
18500.0	29.77	54.41	15.01	7.07	6.69	0.82	26.03	16.44	7.55
19000.0	31.24	54.19	15.78	9.14	6.10	0.89	26.57	16.87	7.53
19500.0	32.16	53.92	16.14	11.99	5.66	0.95	27.00	17.33	7.51
20000.0	32.79	53.34	16.21	14.85	5.05	0.99	27.31	17.80	7.48
20500.0	33.17	53.10	17.65	15.68	4.78	0.98	27.53	18.03	7.53
21000.0	33.41	52.94	17.87	15.46	4.58	0.98	27.74	17.94	7.50
21500.0	33.63	52.75	16.39	15.96	4.38	0.98	27.93	17.74	7.57
22000.0	33.83	52.65	14.48	16.21	4.20	0.99	28.02	17.56	7.68
22500.0	33.98	52.64	12.65	16.48	4.05	1.01	28.17	17.74	7.68
23000.0	34.11	52.08	10.69	16.22	3.63	1.04	28.47	17.95	7.69
23500.0	34.27	51.85	10.15	16.12	3.41	1.05	28.58	18.21	7.74
24000.0	34.41	51.58	10.21	16.70	3.24	1.06	28.52	18.26	7.73
24500.0	34.60	51.35	11.16	18.96	3.18	1.05	28.43	18.26	7.71
25000.0	34.75	51.14	12.55	20.13	3.15	1.02	28.22	18.07	7.79
25500.0	34.75	51.12	13.01	18.82	3.19	1.01	28.02	18.15	7.74
26000.0	34.49	51.06	10.67	16.82	3.10	1.04	28.05	18.24	7.78
26500.0	33.94	51.18	8.61	14.94	3.06	1.10	28.00	18.32	7.90
27000.0	33.33	51.28	7.76	14.62	3.16	1.13	28.00	18.21	7.97
27500.0	32.82	51.54	7.43	15.58	3.45	1.14	28.06	18.10	8.02
28000.0	32.41	51.73	8.19	16.30	3.89	1.11	28.17	18.06	8.07
28500.0	31.99	51.82	9.36	18.10	4.36	1.08	28.15	17.92	8.08
29000.0	31.47	52.19	10.01	20.10	4.91	1.08	28.00	17.85	7.94
29500.0	30.86	52.80	10.04	20.05	5.59	1.09	27.87	17.85	7.86
30000.0	30.26	53.45	9.91	17.52	6.37	1.08	27.80	17.91	7.90
30500.0	29.77	54.27	9.69	15.43	7.30	1.07	27.96	17.93	7.91
31000.0	29.41	55.02	10.03	13.92	8.32	1.05	27.91	17.88	7.90
31500.0	29.12	56.27	10.99	12.70	10.00	1.01	27.93	17.75	7.98
32000.0	28.95	57.15	11.94	12.85	11.42	1.01	27.92	17.65	7.85
32500.0	28.75	59.30	11.79	12.90	14.87	1.01	27.77	17.49	7.77
33000.0	28.47	60.37	11.55	11.72	17.08	1.00	27.47	17.61	7.74
34000.0	27.92	60.71	10.62	10.26	18.11	0.98	28.04	17.82	7.98
35000.0	28.09	59.24	13.59	11.54	16.01	0.97	28.39	18.05	7.88
36000.0	28.63	59.02	15.87	14.23	15.55	0.98	28.20	17.62	7.64
37000.0	28.77	60.53	11.83	11.59	16.83	0.99	29.06	17.33	7.58
38000.0	28.68	64.52	11.41	10.20	25.94	0.97	29.67	17.53	7.53
39000.0	28.62	66.74	12.39	11.18	35.12	0.98	31.45	17.50	7.33
40000.0	28.09	76.53	10.05	9.15	104.45	0.97	30.83	17.44	7.12
41000.0	27.81	62.68	8.73	7.87	20.18	0.94	30.78	17.80	7.37
42000.0	28.61	59.44	10.16	9.70	13.97	0.98	29.67	18.16	7.03
43000.0	29.30	58.67	10.91	10.45	12.36	0.98	29.97	17.70	6.64
44000.0	29.06	62.89	8.41	10.02	18.87	1.03	30.84	18.17	6.58
45000.0	29.77	56.85	8.71	10.97	9.10	1.03	30.78	17.82	6.87
46000.0	32.18	50.28	13.04	10.04	3.46	0.94	30.01	17.35	7.26
47000.0	34.99	45.71	22.22	11.33	1.72	0.85	28.98	17.35	8.09

MMIC Amplifier

AVA-20453MP-D+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 4.50V, IDD = 300mA, VG = -0.45V@ Temperature = -45°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	24.61	54.93	14.07	5.83	11.56	0.77	25.76	18.25	7.79
18500.0	26.31	54.32	14.36	7.02	9.73	0.83	26.21	18.55	7.78
19000.0	27.72	54.02	15.11	8.87	8.79	0.89	26.67	18.89	7.65
19500.0	28.75	53.73	15.49	11.35	8.04	0.95	27.07	19.32	7.60
20000.0	29.50	53.24	15.49	13.82	7.19	0.98	27.36	19.75	7.55
20500.0	29.99	52.98	16.65	14.46	6.66	0.98	27.67	19.96	7.58
21000.0	30.37	52.90	16.71	14.16	6.32	0.98	27.95	19.90	7.63
21500.0	30.64	52.72	15.18	14.38	5.99	0.98	28.13	19.70	7.66
22000.0	30.87	52.71	13.43	14.58	5.77	1.00	28.53	19.52	7.79
22500.0	31.04	52.64	11.84	15.26	5.53	1.02	28.63	19.75	7.77
23000.0	31.15	52.16	10.20	15.97	5.02	1.05	28.72	20.04	7.78
23500.0	31.24	51.94	9.92	17.03	4.81	1.07	28.67	20.39	7.77
24000.0	31.30	51.80	10.23	18.71	4.76	1.08	28.66	20.56	7.82
24500.0	31.31	51.59	11.39	22.66	4.79	1.06	28.57	20.62	7.82
25000.0	31.27	51.42	12.97	25.22	4.87	1.04	28.52	20.42	7.93
25500.0	31.03	51.42	13.30	22.80	5.02	1.03	28.28	20.50	7.89
26000.0	30.53	51.53	10.95	20.65	5.16	1.06	28.09	20.61	7.89
26500.0	29.88	51.54	8.96	18.56	5.22	1.11	27.90	20.75	8.00
27000.0	29.27	51.61	8.21	17.95	5.45	1.13	27.73	20.70	8.08
27500.0	28.68	51.96	7.98	18.44	6.03	1.14	27.89	20.50	8.15
28000.0	28.30	51.95	8.84	17.94	6.52	1.11	27.91	20.37	8.19
28500.0	27.93	52.07	10.09	18.75	7.21	1.08	28.09	20.10	8.14
29000.0	27.46	52.50	10.69	20.44	8.15	1.07	27.95	19.92	8.05
29500.0	26.96	52.97	10.57	20.36	9.06	1.08	27.87	19.88	8.07
30000.0	26.49	53.69	10.23	17.65	10.16	1.08	27.83	19.91	7.99
30500.0	26.05	54.53	9.85	15.32	11.54	1.07	27.93	19.91	8.04
31000.0	25.77	54.90	10.07	13.58	12.37	1.05	27.88	19.77	8.02
31500.0	25.58	56.50	10.99	12.25	15.31	1.01	27.91	19.60	8.11
32000.0	25.50	57.21	11.94	12.42	17.03	1.00	27.95	19.46	7.95
32500.0	25.41	59.49	11.74	12.44	22.21	1.01	27.93	19.28	7.88
33000.0	25.19	60.69	11.49	11.40	25.64	0.99	27.85	19.38	7.87
34000.0	24.77	59.75	10.43	9.78	22.93	0.97	28.01	19.65	8.10
35000.0	24.96	58.51	13.01	10.52	20.56	0.96	28.21	19.86	8.02
36000.0	25.47	57.93	14.67	12.48	19.16	0.97	28.13	19.34	7.71
37000.0	25.33	59.95	10.93	10.28	22.46	0.98	28.93	19.38	7.68
38000.0	24.96	63.00	10.81	9.12	32.01	0.95	29.58	19.86	7.58
39000.0	24.81	65.52	12.01	10.15	46.00	0.96	31.14	19.83	7.42
40000.0	24.17	82.19	9.76	8.45	304.92	0.95	30.59	19.64	7.25
41000.0	23.90	64.43	8.87	7.47	38.12	0.92	30.61	19.90	7.45
42000.0	24.68	60.35	10.84	9.40	24.60	0.96	29.55	20.10	7.13
43000.0	25.35	59.32	11.82	10.25	21.19	0.96	29.51	19.48	6.74
44000.0	25.36	62.01	9.37	10.22	27.14	1.01	30.32	19.67	6.77
45000.0	26.53	56.26	9.90	11.48	12.86	1.02	30.17	19.18	7.07
46000.0	29.18	50.08	14.69	11.18	4.99	0.95	29.43	18.59	7.53
47000.0	30.79	46.94	16.68	16.20	3.12	0.98	28.15	18.74	8.38

MMIC Amplifier

AVA-20453MP-D+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 5.00V, IDD = 300mA, VG = -0.45V @ Temperature = -45°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	22.09	54.86	13.60	5.69	15.09	0.77	26.47	19.53	8.06
18500.0	23.77	54.29	13.85	6.80	12.75	0.82	26.91	19.87	8.05
19000.0	25.16	53.98	14.55	8.49	11.51	0.88	27.40	20.23	7.88
19500.0	26.25	53.69	14.95	10.74	10.49	0.94	27.76	20.67	7.81
20000.0	27.08	53.15	14.91	12.92	9.25	0.98	28.04	21.09	7.83
20500.0	27.64	52.91	15.94	13.44	8.52	0.98	28.32	21.30	7.77
21000.0	28.06	52.90	15.88	13.11	8.10	0.97	28.72	21.30	7.78
21500.0	28.37	52.75	14.41	13.27	7.65	0.98	29.09	21.15	7.83
22000.0	28.59	52.79	12.77	13.52	7.41	1.00	29.40	20.99	7.91
22500.0	28.77	52.76	11.35	14.43	7.14	1.02	29.75	21.23	7.95
23000.0	28.85	52.30	9.94	15.79	6.56	1.06	29.77	21.48	7.96
23500.0	28.89	52.09	9.84	17.84	6.40	1.08	29.51	21.82	8.03
24000.0	28.85	51.91	10.34	20.74	6.41	1.08	29.17	22.12	8.07
24500.0	28.74	51.72	11.66	26.98	6.58	1.06	28.89	22.26	8.09
25000.0	28.52	51.58	13.38	30.64	6.82	1.04	28.69	22.05	8.10
25500.0	28.16	51.74	13.52	25.88	7.24	1.04	28.40	22.11	8.15
26000.0	27.57	51.75	11.14	24.33	7.47	1.07	28.12	22.15	8.12
26500.0	26.87	51.82	9.16	22.38	7.73	1.11	27.85	22.25	8.22
27000.0	26.25	51.83	8.48	20.99	8.08	1.13	27.58	22.25	8.33
27500.0	25.69	52.11	8.25	20.07	8.81	1.14	27.50	21.96	8.39
28000.0	25.31	52.14	9.21	18.13	9.50	1.10	27.43	21.73	8.49
28500.0	24.95	52.27	10.45	18.07	10.42	1.07	27.31	21.41	8.39
29000.0	24.55	52.75	10.98	19.38	11.74	1.06	27.31	21.18	8.32
29500.0	24.11	53.00	10.80	19.48	12.64	1.07	27.24	21.18	8.23
30000.0	23.69	53.59	10.32	17.20	13.88	1.07	27.14	21.23	8.30
30500.0	23.31	54.43	9.89	14.98	15.60	1.07	27.13	21.20	8.23
31000.0	23.07	55.28	10.05	13.18	17.52	1.04	27.19	21.03	8.13
31500.0	22.93	56.72	10.95	11.82	21.09	1.01	27.21	20.84	8.30
32000.0	22.91	57.25	11.84	12.01	22.86	1.00	27.22	20.71	8.19
32500.0	22.88	59.84	11.68	12.01	30.73	1.00	27.20	20.54	8.12
33000.0	22.74	61.23	11.40	11.06	35.90	0.99	27.12	20.64	8.08
34000.0	22.33	59.96	10.19	9.33	30.50	0.97	27.19	20.95	8.16
35000.0	22.53	58.23	12.59	9.78	25.71	0.95	27.06	21.05	8.13
36000.0	22.95	57.80	13.90	11.45	24.64	0.97	26.94	20.57	7.86
37000.0	22.56	59.29	10.36	9.52	27.71	0.97	27.79	20.85	7.93
38000.0	22.09	62.13	10.62	8.54	39.34	0.94	28.11	21.26	7.84
39000.0	21.86	65.71	11.92	9.62	64.97	0.95	29.73	21.09	7.70
40000.0	21.13	81.79	9.65	8.04	405.39	0.93	29.21	20.90	7.51
41000.0	20.87	65.23	9.15	7.18	58.83	0.91	29.51	21.13	7.68
42000.0	21.71	60.06	11.47	9.15	33.69	0.94	28.56	21.11	7.34
43000.0	22.32	61.28	12.52	10.00	37.72	0.95	28.34	20.48	7.07
44000.0	22.55	63.04	10.12	10.13	43.07	0.99	28.87	20.55	7.03
45000.0	24.03	55.63	10.68	11.54	16.22	1.01	28.67	20.01	7.33
46000.0	26.75	50.34	15.09	11.72	6.88	0.95	28.15	19.35	7.71
47000.0	27.66	47.69	15.67	18.31	4.84	1.01	27.15	19.54	9.16

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 3.00V, IDD = 300mA, VG = -0.45V @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	21.74	55.07	15.36	7.55	18.51	0.85	21.96	14.42	9.17
18500.0	23.30	54.53	16.16	9.07	15.57	0.90	22.34	14.67	9.10
19000.0	24.55	54.15	16.80	10.94	13.64	0.94	23.03	14.93	8.99
19500.0	25.47	53.94	17.07	12.86	12.36	0.96	23.72	15.31	8.97
20000.0	26.15	53.74	16.83	14.58	11.34	0.98	24.19	15.64	8.99
20500.0	26.57	53.99	16.11	15.68	11.14	1.00	24.38	15.71	9.05
21000.0	26.94	54.31	15.09	16.32	11.05	1.01	23.72	15.45	8.98
21500.0	27.28	54.04	14.11	16.93	10.28	1.02	22.81	15.13	9.09
22000.0	27.52	53.94	12.94	17.35	9.81	1.03	22.71	14.96	9.21
22500.0	27.70	53.57	12.06	17.70	9.13	1.04	22.85	15.24	9.08
23000.0	27.80	52.90	11.45	17.93	8.27	1.05	23.34	15.59	9.07
23500.0	27.80	52.66	11.48	18.18	8.03	1.05	23.93	15.91	9.15
24000.0	27.75	52.50	11.97	18.85	8.00	1.05	24.16	15.93	9.22
24500.0	27.63	52.27	12.69	19.78	7.99	1.04	24.12	15.95	9.30
25000.0	27.41	52.02	13.22	20.84	8.04	1.04	24.08	15.76	9.29
25500.0	27.11	51.97	12.93	21.21	8.28	1.04	24.16	15.94	9.34
26000.0	26.71	51.93	11.86	20.39	8.49	1.05	24.51	16.15	9.32
26500.0	26.20	51.82	10.76	18.95	8.65	1.07	24.99	16.35	9.44
27000.0	25.71	51.91	9.94	17.68	9.01	1.08	25.27	16.30	9.50
27500.0	25.23	51.64	9.50	16.68	9.06	1.09	24.97	16.06	9.55
28000.0	24.82	51.85	9.52	16.16	9.76	1.08	24.51	15.93	9.57
28500.0	24.44	52.33	9.81	16.09	10.89	1.07	24.31	15.84	9.59
29000.0	24.07	52.77	10.54	16.24	12.19	1.06	24.10	15.96	9.56
29500.0	23.71	53.50	11.36	16.42	14.01	1.05	24.23	16.09	9.60
30000.0	23.40	54.25	12.04	16.42	15.96	1.04	24.99	16.15	9.46
30500.0	23.08	55.16	12.35	15.63	18.38	1.03	25.84	16.09	9.49
31000.0	22.81	56.66	12.29	14.35	22.33	1.02	26.78	15.91	9.39
31500.0	22.58	57.64	11.91	12.93	25.21	1.01	26.95	15.74	9.34
32000.0	22.39	59.31	11.74	11.71	30.56	0.99	26.46	15.66	9.35
32500.0	22.27	61.35	11.69	10.80	38.38	0.98	26.50	15.57	9.34
33000.0	22.21	62.08	11.73	10.32	41.64	0.97	26.29	15.77	9.36
34000.0	22.20	61.05	12.68	10.48	37.77	0.96	28.92	16.31	9.31
35000.0	22.39	58.29	14.13	11.61	27.86	0.97	28.87	16.58	9.29
36000.0	22.59	57.95	14.56	12.04	26.52	0.97	27.63	16.07	9.16
37000.0	22.40	59.07	12.61	10.80	29.56	0.97	29.94	16.02	9.12
38000.0	21.94	62.49	11.14	9.62	43.75	0.96	32.32	17.96	9.04
39000.0	21.52	69.44	10.86	9.24	100.77	0.95	35.12	17.57	8.95
40000.0	21.31	76.58	11.15	9.39	236.84	0.95	35.66	17.06	8.61
41000.0	21.50	63.67	11.63	9.73	53.51	0.95	35.61	16.75	8.60
42000.0	21.93	59.72	11.58	10.60	32.84	0.98	32.89	16.07	8.63
43000.0	22.25	60.52	10.55	11.52	34.79	1.01	29.78	14.82	8.58

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 3.50V, IDD = 300mA, VG = -0.45V @ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	19.64	55.03	14.84	7.24	23.00	0.84	26.01	16.31	9.12
18500.0	21.22	54.45	15.64	8.63	19.23	0.89	26.90	16.57	9.27
19000.0	22.53	54.13	16.28	10.27	16.86	0.92	28.12	16.82	9.16
19500.0	23.53	53.88	16.55	11.91	15.11	0.95	28.98	17.18	9.09
20000.0	24.28	53.72	16.32	13.38	13.83	0.98	29.57	17.49	9.09
20500.0	24.80	53.93	15.61	14.39	13.39	0.99	29.80	17.62	9.17
21000.0	25.25	54.22	14.65	15.07	13.13	1.00	28.96	17.44	9.12
21500.0	25.63	54.06	13.68	15.79	12.32	1.01	27.02	17.14	9.19
22000.0	25.88	54.04	12.63	16.50	11.87	1.03	26.67	16.92	9.31
22500.0	26.07	53.69	11.88	17.33	11.09	1.04	26.75	17.22	9.20
23000.0	26.15	53.04	11.40	18.27	10.15	1.05	27.71	17.60	9.23
23500.0	26.10	52.81	11.51	19.46	9.98	1.06	28.56	18.00	9.19
24000.0	25.97	52.62	12.11	21.21	10.02	1.05	28.70	18.08	9.36
24500.0	25.75	52.47	12.88	23.34	10.24	1.05	28.57	18.06	9.40
25000.0	25.42	52.22	13.45	25.62	10.43	1.04	28.58	17.81	9.52
25500.0	25.01	52.23	13.18	26.84	10.93	1.04	28.50	17.95	9.49
26000.0	24.53	52.20	12.13	25.60	11.36	1.06	29.24	18.14	9.44
26500.0	23.97	52.10	11.01	22.91	11.70	1.07	29.42	18.36	9.58
27000.0	23.41	52.01	10.18	20.47	12.05	1.09	29.58	18.38	9.68
27500.0	22.89	52.08	9.71	18.40	12.66	1.09	29.42	18.10	9.71
28000.0	22.47	52.11	9.66	17.03	13.26	1.09	28.81	17.90	9.77
28500.0	22.08	52.61	10.00	16.28	14.80	1.07	28.01	17.76	9.75
29000.0	21.73	52.87	10.66	16.02	16.12	1.06	29.60	17.80	9.73
29500.0	21.42	53.66	11.52	16.06	18.59	1.04	29.79	17.90	9.71
30000.0	21.14	54.32	12.15	16.06	20.87	1.04	29.71	17.94	9.65
30500.0	20.86	55.07	12.37	15.42	23.44	1.03	29.67	17.88	9.61
31000.0	20.62	56.38	12.17	14.16	27.76	1.02	29.56	17.71	9.53
31500.0	20.42	57.93	11.80	12.67	33.22	1.01	29.61	17.55	9.56
32000.0	20.26	59.70	11.52	11.40	40.47	0.99	29.77	17.48	9.47
32500.0	20.19	61.17	11.48	10.48	47.28	0.98	29.74	17.38	9.52
33000.0	20.16	63.13	11.52	9.96	58.78	0.96	29.57	17.61	9.56
34000.0	20.22	60.59	12.44	9.97	44.35	0.95	29.55	18.08	9.43
35000.0	20.38	57.95	13.73	10.84	33.18	0.96	29.29	18.05	9.40
36000.0	20.48	57.47	13.86	11.18	31.34	0.96	29.67	17.56	9.28
37000.0	20.17	59.48	12.27	10.14	39.29	0.96	30.43	17.85	9.27
38000.0	19.62	62.55	11.03	9.11	56.57	0.95	30.59	18.30	9.21
39000.0	19.18	69.10	10.82	8.79	124.80	0.94	31.84	18.06	9.19
40000.0	18.98	73.87	11.22	8.97	223.98	0.94	31.33	17.89	8.82
41000.0	19.23	64.55	12.00	9.35	76.46	0.94	31.60	18.03	8.88
42000.0	19.71	59.79	11.97	10.08	42.57	0.96	30.77	17.83	8.80
43000.0	20.18	60.82	10.97	10.88	45.56	0.99	31.39	16.96	8.73

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 4.00V, IDD = 300mA, VG = -0.45DV@ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	17.72	55.04	14.53	6.99	28.29	0.83	27.62	17.55	9.48
18500.0	19.31	54.57	15.27	8.28	23.92	0.88	28.07	17.90	9.40
19000.0	20.65	54.10	15.92	9.77	20.55	0.92	28.31	18.23	9.26
19500.0	21.69	53.91	16.21	11.23	18.46	0.94	28.44	18.63	9.28
20000.0	22.50	53.74	15.94	12.52	16.80	0.97	28.60	18.96	9.28
20500.0	23.11	53.91	15.28	13.43	16.05	0.98	28.84	19.11	9.29
21000.0	23.59	54.19	14.30	14.11	15.67	1.00	29.47	19.00	9.24
21500.0	24.00	54.07	13.37	14.86	14.73	1.01	30.49	18.76	9.31
22000.0	24.28	54.08	12.40	15.71	14.22	1.03	30.86	18.56	9.45
22500.0	24.44	53.78	11.73	16.84	13.44	1.04	30.85	18.88	9.33
23000.0	24.48	53.13	11.36	18.34	12.40	1.05	30.26	19.28	9.44
23500.0	24.41	52.96	11.58	20.49	12.36	1.06	29.59	19.78	9.32
24000.0	24.19	52.77	12.26	23.77	12.59	1.05	29.37	19.91	9.54
24500.0	23.89	52.66	13.08	28.42	13.04	1.05	29.34	19.89	9.50
25000.0	23.49	52.40	13.67	33.91	13.36	1.04	29.25	19.63	9.65
25500.0	22.99	52.41	13.41	36.16	14.14	1.04	28.98	19.72	9.58
26000.0	22.44	52.40	12.33	32.81	14.82	1.06	28.35	19.87	9.62
26500.0	21.87	52.23	11.19	27.18	15.21	1.07	28.07	20.06	9.72
27000.0	21.28	52.24	10.34	22.64	15.94	1.09	27.64	20.03	9.72
27500.0	20.76	52.24	9.88	19.30	16.61	1.09	27.68	19.72	9.85
28000.0	20.32	52.38	9.84	17.20	17.59	1.08	27.48	19.52	9.90
28500.0	19.93	53.03	10.16	15.97	19.91	1.07	27.60	19.31	9.98
29000.0	19.60	53.12	10.81	15.43	21.16	1.05	27.44	19.29	9.97
29500.0	19.31	53.82	11.64	15.33	24.10	1.04	27.46	19.34	9.89
30000.0	19.05	54.40	12.21	15.35	26.69	1.03	27.49	19.34	9.84
30500.0	18.81	55.33	12.38	14.87	30.47	1.02	27.53	19.27	9.78
31000.0	18.60	56.65	12.16	13.77	35.97	1.02	27.69	19.11	9.74
31500.0	18.40	57.82	11.71	12.35	41.12	1.00	27.78	18.92	9.81
32000.0	18.28	59.60	11.42	11.10	49.88	0.99	27.82	18.84	9.60
32500.0	18.21	61.53	11.35	10.16	61.26	0.97	27.85	18.69	9.59
33000.0	18.19	62.83	11.46	9.62	70.49	0.96	27.83	18.89	9.70
34000.0	18.27	60.49	12.25	9.51	54.00	0.94	28.07	19.26	9.65
35000.0	18.40	57.90	13.42	10.24	40.79	0.95	27.78	19.26	9.57
36000.0	18.38	57.33	13.56	10.56	38.67	0.95	27.90	18.86	9.53
37000.0	17.96	59.23	12.12	9.66	48.49	0.95	29.14	19.07	9.41
38000.0	17.36	62.02	10.98	8.74	68.03	0.94	29.47	19.45	9.42
39000.0	16.87	69.03	10.93	8.46	159.89	0.93	30.97	19.28	9.34
40000.0	16.71	91.66	11.48	8.68	2245.12	0.93	30.39	19.05	9.14
41000.0	17.03	63.78	12.32	9.06	89.77	0.93	31.09	19.22	9.07
42000.0	17.52	60.71	12.30	9.74	60.64	0.95	29.51	19.11	8.98
43000.0	18.11	62.49	11.44	10.52	70.10	0.98	29.37	18.35	8.86

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 4.00V, IDD = 300mA, VG = -0.45DV@ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	16.45	55.19	14.36	6.72	32.74	0.82	26.74	18.32	9.85
18500.0	18.40	54.56	15.15	7.88	26.07	0.86	26.86	18.76	9.84
19000.0	19.82	54.12	15.83	9.25	22.29	0.90	27.07	19.16	9.47
19500.0	20.50	53.83	16.00	10.63	20.70	0.93	27.42	19.60	9.29
20000.0	21.60	53.63	15.80	11.79	18.17	0.96	27.66	19.94	9.38
20500.0	22.41	53.93	15.15	12.68	17.24	0.98	27.97	20.11	9.41
21000.0	22.51	54.22	14.14	13.33	17.63	0.99	28.22	20.07	9.35
21500.0	22.97	54.13	13.23	14.09	16.57	1.01	28.43	19.93	9.46
22000.0	23.61	54.11	12.37	15.15	15.36	1.02	28.45	19.80	9.61
22500.0	23.48	53.87	11.69	16.39	15.13	1.04	28.43	20.12	9.63
23000.0	23.42	53.30	11.37	18.23	14.28	1.05	28.27	20.50	9.53
23500.0	23.68	53.02	11.67	21.30	13.56	1.06	27.92	21.04	9.54
24000.0	23.30	52.90	12.36	26.17	14.20	1.06	27.66	21.21	9.68
24500.0	22.67	52.77	13.24	36.73	15.25	1.05	27.41	21.19	9.67
25000.0	22.70	52.50	13.85	38.95	14.82	1.04	27.01	20.93	9.77
25500.0	22.27	52.53	13.55	33.51	15.58	1.04	26.77	20.98	9.78
26000.0	21.09	52.57	12.46	32.90	17.68	1.06	26.67	21.06	9.83
26500.0	21.03	52.39	11.30	29.19	17.12	1.07	26.54	21.18	9.94
27000.0	20.60	52.28	10.42	23.48	17.38	1.09	26.59	21.12	10.02
27500.0	19.38	52.36	9.99	19.43	19.80	1.09	26.45	20.79	10.05
28000.0	19.06	52.41	9.94	16.94	20.45	1.08	26.65	20.57	10.12
28500.0	19.18	52.98	10.21	15.53	21.56	1.06	26.52	20.29	10.12
29000.0	18.24	53.29	10.86	14.80	25.13	1.04	26.77	20.23	10.05
29500.0	17.98	54.11	11.65	14.64	28.85	1.03	26.88	20.23	9.99
30000.0	18.27	54.51	12.23	14.76	29.46	1.02	26.98	20.19	9.86
30500.0	17.64	55.23	12.36	14.35	34.35	1.02	27.11	20.12	10.02
31000.0	17.30	56.72	12.08	13.36	41.89	1.01	27.35	19.95	9.78
31500.0	17.58	57.47	11.66	12.06	43.19	1.00	27.48	19.75	10.00
32000.0	17.30	59.93	11.36	10.83	57.55	0.98	27.45	19.65	9.87
32500.0	16.93	61.52	11.33	9.87	70.38	0.96	27.42	19.47	9.74
33000.0	17.33	62.04	11.37	9.34	70.37	0.95	27.30	19.63	9.84
34000.0	16.98	60.41	12.19	9.15	61.39	0.93	27.70	19.94	9.91
35000.0	17.53	57.89	13.34	9.87	44.55	0.94	27.46	19.97	9.81
36000.0	17.16	57.04	13.43	10.11	42.47	0.94	27.57	19.65	9.67
37000.0	16.52	58.61	12.00	9.30	52.68	0.94	29.05	19.80	9.68
38000.0	16.45	61.57	10.99	8.48	71.14	0.93	29.52	20.11	9.61
39000.0	15.41	68.00	11.02	8.18	166.42	0.91	30.87	20.01	9.57
40000.0	15.56	73.39	11.59	8.42	310.15	0.92	30.52	19.80	9.32
41000.0	16.07	63.31	12.52	8.79	94.38	0.92	30.34	19.94	9.23
42000.0	16.08	59.26	12.61	9.42	60.32	0.94	29.58	19.96	9.25
43000.0	17.38	60.83	11.63	10.13	62.58	0.96	29.37	19.26	9.07

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: VDD = 5.00V, IDD = 300mA, VG = -0.45V@ Temperature = +85°C

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
18000.0	16.05	55.20	14.42	6.31	33.39	0.80	26.69	18.90	9.75
18500.0	17.42	54.61	15.06	7.51	28.81	0.85	26.72	19.45	9.94
19000.0	19.33	54.13	15.86	8.61	23.15	0.88	26.74	19.90	9.58
19500.0	20.58	53.95	16.15	9.84	20.41	0.92	27.04	20.38	9.71
20000.0	20.93	53.67	15.72	11.10	19.46	0.95	27.33	20.74	9.54
20500.0	21.96	53.87	15.12	11.92	17.83	0.97	27.56	20.93	9.66
21000.0	22.73	54.30	14.24	12.64	17.24	0.98	27.75	20.95	9.62
21500.0	22.57	54.26	13.24	13.45	17.50	1.00	27.87	20.87	9.58
22000.0	22.92	54.24	12.37	14.47	16.77	1.02	27.76	20.80	9.77
22500.0	23.71	54.00	11.94	16.24	14.99	1.04	27.68	21.13	9.71
23000.0	23.06	53.43	11.47	18.18	15.13	1.05	27.59	21.43	9.77
23500.0	22.91	53.10	11.76	21.51	14.99	1.06	27.29	22.04	9.72
24000.0	23.45	52.99	12.57	28.38	14.16	1.05	26.98	22.24	9.90
24500.0	22.68	52.84	13.41	36.62	15.37	1.04	26.69	22.24	9.82
25000.0	21.92	52.63	14.00	29.19	16.47	1.04	26.51	21.95	10.01
25500.0	22.38	52.56	13.74	27.13	15.43	1.04	26.31	21.97	10.04
26000.0	21.67	52.69	12.59	27.55	16.79	1.05	26.33	22.00	9.99
26500.0	20.23	52.57	11.40	27.35	19.18	1.07	26.17	22.05	10.16
27000.0	20.60	52.48	10.48	23.11	17.81	1.08	26.29	21.95	10.13
27500.0	20.25	52.43	9.98	19.03	18.03	1.09	26.17	21.60	10.14
28000.0	18.67	52.56	9.94	16.49	21.71	1.08	26.40	21.35	10.30
28500.0	18.62	53.16	10.20	14.95	23.35	1.06	26.28	21.00	10.34
29000.0	18.99	53.33	10.78	14.28	23.03	1.04	26.52	20.90	10.26
29500.0	17.62	54.04	11.65	14.05	29.70	1.02	26.64	20.88	10.17
30000.0	17.39	54.33	12.22	14.12	31.76	1.02	26.73	20.81	10.17
30500.0	18.06	55.21	12.31	13.91	32.48	1.02	26.87	20.73	10.30
31000.0	16.92	56.67	12.05	13.01	43.29	1.01	27.21	20.56	10.03
31500.0	16.69	57.73	11.62	11.72	49.05	1.00	27.26	20.34	10.14
32000.0	17.34	59.68	11.33	10.57	55.40	0.98	27.25	20.21	10.02
32500.0	17.24	61.46	11.25	9.64	66.97	0.96	27.16	20.00	10.04
33000.0	16.46	62.50	11.37	9.06	81.24	0.94	26.98	20.14	10.16
34000.0	17.12	59.99	12.13	8.91	56.97	0.92	27.38	20.34	10.10
35000.0	17.09	57.35	13.37	9.53	43.62	0.93	27.18	20.39	9.95
36000.0	16.51	57.00	13.43	9.82	45.25	0.94	27.32	20.13	9.94
37000.0	16.93	58.66	12.24	9.16	50.47	0.93	28.92	20.21	9.81
38000.0	15.58	62.39	11.07	8.22	85.65	0.92	29.82	20.44	9.73
39000.0	15.02	68.61	11.13	7.97	185.57	0.91	30.80	19.86	9.77
40000.0	15.79	75.13	11.66	8.22	366.97	0.91	30.14	19.67	9.52
41000.0	15.16	62.71	12.67	8.52	97.07	0.91	30.26	19.87	9.51
42000.0	16.60	58.67	12.64	9.15	52.64	0.93	29.39	20.40	9.46
43000.0	17.16	59.61	11.61	9.77	55.29	0.96	29.21	19.84	9.32