

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 160mA @ 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)
50	20.34	70.01	10.06	9.30	121.19	0.97	39.65	25.41	5.62
100	18.58	67.78	14.77	20.96	138.35	1.02	38.33	24.95	4.75
500	17.31	64.99	19.62	21.45	118.82	1.00	35.86	24.10	3.95
1000	17.14	64.33	16.88	24.26	111.59	1.02	37.36	24.28	3.63
1500	17.00	62.02	14.80	26.93	85.98	1.03	37.07	24.35	3.43
2000	16.84	59.94	13.53	24.50	68.05	1.04	36.51	24.70	3.01
2500	16.58	59.03	12.87	20.63	62.32	1.04	36.34	24.79	2.70
3000	16.11	59.59	13.48	17.94	70.13	1.03	36.13	24.86	2.41
3500	15.68	54.91	16.60	16.78	43.83	1.00	35.82	24.57	2.47
4000	15.74	51.17	20.39	16.24	28.58	0.99	34.87	24.72	2.31
4500	15.82	49.02	21.69	15.68	22.11	0.98	34.25	24.45	1.89
5000	15.80	47.72	21.19	15.72	19.04	0.98	33.56	24.56	1.82
5500	15.79	46.10	21.12	16.51	15.90	0.98	33.07	24.18	1.99
6000	15.80	44.97	21.87	16.83	14.00	0.99	32.18	24.08	1.86
6500	15.77	43.89	24.09	16.80	12.44	0.98	32.06	23.72	1.73
7000	15.64	42.95	26.57	16.37	11.32	0.98	31.29	23.49	2.10
7500	15.39	42.09	25.89	16.19	10.54	0.98	31.08	23.26	2.17
8000	15.07	41.34	22.06	16.10	9.98	0.98	30.46	22.93	2.32
8500	14.74	40.77	18.83	15.92	9.64	0.99	30.26	22.82	2.63
9000	14.50	40.12	16.42	16.12	9.10	1.00	29.78	22.74	2.72
9500	14.36	39.51	14.66	16.48	8.55	1.01	29.60	22.89	2.79
10000	14.32	38.94	13.59	17.23	8.01	1.02	29.31	22.99	2.91
10500	14.38	38.38	13.05	18.30	7.46	1.03	29.20	23.05	3.03
11000	14.52	37.36	13.02	19.53	6.57	1.03	29.01	23.25	2.82
11500	14.64	36.43	13.32	21.05	5.87	1.03	28.81	23.04	2.90
12000	14.69	35.40	13.49	23.10	5.20	1.03	28.56	23.18	3.21
12500	14.73	34.51	13.06	26.79	4.67	1.04	28.20	23.17	3.13
13000	14.73	33.64	12.10	31.89	4.19	1.05	28.08	23.25	3.12
13500	14.75	33.09	10.85	25.34	3.85	1.06	28.06	23.14	3.35
14000	14.68	32.94	10.11	20.50	3.75	1.07	27.73	23.07	3.27
14500	14.62	32.77	9.87	18.13	3.65	1.06	27.17	23.02	3.47
15000	14.56	32.50	10.25	16.57	3.56	1.05	26.70	22.97	3.45
15500	14.55	32.35	10.83	15.51	3.51	1.04	26.30	23.11	3.71
16000	14.58	31.91	11.74	15.23	3.36	1.03	26.05	23.42	3.60
16500	14.65	31.65	12.00	15.29	3.25	1.02	25.52	22.98	3.84
17000	14.60	31.27	11.06	16.05	3.11	1.04	25.36	22.36	4.13
17500	14.43	30.92	10.18	17.03	3.04	1.05	25.11	22.24	4.39
18000	14.12	30.82	9.49	17.07	3.09	1.06	25.06	22.62	4.56
18500	13.77	30.81	9.58	16.36	3.21	1.05	24.56	22.59	5.00
19000	13.35	30.70	10.40	14.70	3.33	1.03	23.99	22.45	5.24
19500	12.93	31.00	11.00	13.24	3.54	1.02	23.12	22.41	5.81
20000	12.48	30.77	10.56	12.05	3.50	1.02	21.96	22.06	5.99

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 150mA @ 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)
50	20.19	70.03	10.06	9.33	123.62	0.97	37.49	25.42	5.38
100	18.43	67.55	14.77	20.90	136.94	1.02	36.42	24.81	4.64
500	17.17	64.75	19.62	21.35	117.52	1.00	34.56	23.67	3.95
1000	17.00	63.49	16.90	24.16	102.98	1.02	36.33	23.90	3.62
1500	16.86	61.21	14.80	26.93	79.69	1.03	36.14	24.08	3.41
2000	16.70	59.03	13.52	24.66	62.29	1.04	36.22	24.39	3.00
2500	16.43	58.19	12.88	20.76	57.53	1.04	36.33	24.62	2.70
3000	15.97	58.91	13.50	18.04	65.96	1.03	36.14	24.63	2.40
3500	15.54	54.80	16.62	16.86	43.96	1.00	35.84	24.52	2.47
4000	15.60	51.05	20.41	16.30	28.65	0.99	35.03	24.44	2.28
4500	15.67	48.89	21.70	15.72	22.15	0.98	34.58	24.29	1.90
5000	15.66	47.64	21.19	15.74	19.19	0.98	33.78	24.36	1.81
5500	15.64	46.04	21.16	16.52	16.08	0.98	33.47	24.15	1.94
6000	15.64	44.94	21.93	16.83	14.19	0.99	32.58	24.03	1.86
6500	15.62	43.82	24.13	16.80	12.55	0.98	32.39	23.69	1.73
7000	15.48	42.88	26.69	16.41	11.45	0.98	31.75	23.39	2.07
7500	15.23	42.08	25.94	16.21	10.73	0.98	31.49	23.12	2.12
8000	14.90	41.41	22.08	16.12	10.27	0.98	30.93	22.65	2.28
8500	14.56	40.87	18.81	15.88	9.94	0.99	30.79	22.59	2.62
9000	14.32	40.16	16.42	16.03	9.34	1.00	30.27	22.44	2.74
9500	14.19	39.50	14.71	16.39	8.70	1.01	30.23	22.54	2.78
10000	14.17	38.92	13.68	17.13	8.14	1.02	29.87	22.72	2.95
10500	14.23	38.35	13.15	18.18	7.57	1.03	29.80	22.87	2.94
11000	14.38	37.31	13.09	19.46	6.64	1.03	29.65	23.03	2.81
11500	14.50	36.35	13.29	21.03	5.91	1.03	29.46	22.84	2.89
12000	14.55	35.31	13.43	23.20	5.24	1.03	29.17	22.92	3.18
12500	14.58	34.40	13.00	27.05	4.69	1.04	28.94	22.87	3.08
13000	14.57	33.54	12.08	32.02	4.21	1.05	28.69	22.92	3.12
13500	14.59	32.98	10.93	25.07	3.88	1.06	28.67	22.90	3.37
14000	14.52	32.80	10.14	20.37	3.76	1.07	28.28	22.82	3.20
14500	14.44	32.65	9.92	18.08	3.68	1.06	27.76	22.84	3.33
15000	14.37	32.38	10.31	16.54	3.59	1.05	27.30	22.83	3.47
15500	14.37	32.23	10.83	15.55	3.53	1.04	26.92	23.11	3.62
16000	14.40	31.85	11.68	15.29	3.40	1.03	26.56	23.60	3.51
16500	14.44	31.59	11.91	15.36	3.30	1.03	26.19	23.35	3.88
17000	14.39	31.24	11.05	16.13	3.17	1.04	25.99	22.67	4.13
17500	14.20	30.91	10.20	17.10	3.11	1.05	25.79	22.41	4.42
18000	13.90	30.81	9.57	17.07	3.16	1.06	25.77	22.67	4.63
18500	13.53	30.79	9.67	16.35	3.30	1.05	25.23	22.70	5.00
19000	13.10	30.68	10.41	14.71	3.41	1.03	24.59	22.66	5.21
19500	12.69	30.99	10.93	13.22	3.63	1.02	23.74	22.74	5.82
20000	12.23	30.79	10.39	12.02	3.59	1.03	22.58	22.22	5.89

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 170mA @ 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)
50	20.45	70.52	10.07	9.24	126.69	0.97	43.11	24.77	5.91
100	18.68	67.83	14.78	21.09	137.46	1.03	42.21	24.49	4.85
500	17.40	65.51	19.65	21.65	124.94	1.00	37.47	23.85	4.00
1000	17.24	65.39	16.90	24.47	124.61	1.02	36.28	24.00	3.65
1500	17.10	63.32	14.80	26.92	98.71	1.03	36.66	23.94	3.39
2000	16.94	61.03	13.52	24.24	76.22	1.04	35.70	24.43	3.00
2500	16.68	60.33	12.86	20.41	71.49	1.04	35.53	24.42	2.70
3000	16.20	60.49	13.47	17.77	76.89	1.03	35.03	24.59	2.43
3500	15.77	54.94	16.61	16.65	43.46	1.00	35.01	24.20	2.49
4000	15.84	51.26	20.41	16.14	28.53	0.98	34.21	24.60	2.36
4500	15.91	49.10	21.71	15.60	22.05	0.98	33.67	24.15	1.95
5000	15.90	47.91	21.18	15.67	19.24	0.98	32.95	24.33	1.85
5500	15.89	46.21	21.13	16.50	15.93	0.98	32.57	23.82	2.04
6000	15.89	45.10	21.94	16.86	14.05	0.99	31.69	23.81	1.91
6500	15.87	43.91	24.13	16.87	12.32	0.98	31.46	23.36	1.77
7000	15.73	43.03	26.59	16.42	11.31	0.98	30.71	23.24	2.10
7500	15.48	42.09	25.95	16.17	10.44	0.98	30.39	22.98	2.13
8000	15.15	41.34	22.11	16.03	9.90	0.98	29.84	22.86	2.30
8500	14.82	40.76	18.89	15.77	9.53	0.99	29.57	22.77	2.68
9000	14.58	40.13	16.45	15.91	9.02	1.00	29.08	22.74	2.80
9500	14.45	39.55	14.67	16.26	8.49	1.01	28.94	22.75	2.83
10000	14.42	39.05	13.56	17.04	8.00	1.02	28.61	22.78	2.98
10500	14.50	38.47	13.02	18.21	7.43	1.03	28.46	22.77	3.05
11000	14.65	37.47	13.01	19.53	6.56	1.03	28.31	22.98	2.87
11500	14.77	36.53	13.38	21.10	5.85	1.03	28.16	22.76	2.93
12000	14.83	35.51	13.58	23.22	5.20	1.03	27.91	22.98	3.22
12500	14.86	34.63	13.14	26.89	4.66	1.04	27.60	23.07	3.14
13000	14.87	33.76	12.10	32.18	4.18	1.05	27.38	23.18	3.15
13500	14.89	33.25	10.82	25.46	3.86	1.06	27.37	22.98	3.40
14000	14.81	33.10	10.04	20.61	3.75	1.07	27.07	22.87	3.25
14500	14.75	32.86	9.84	18.18	3.64	1.07	26.54	22.79	3.47
15000	14.69	32.61	10.23	16.63	3.56	1.05	26.05	22.68	3.48
15500	14.69	32.46	10.85	15.55	3.50	1.04	25.74	22.70	3.74
16000	14.72	32.01	11.77	15.24	3.34	1.03	25.33	22.91	3.61
16500	14.78	31.74	12.07	15.21	3.23	1.02	24.85	22.46	3.90
17000	14.73	31.34	11.10	15.86	3.08	1.04	24.67	21.97	4.21
17500	14.56	30.97	10.15	16.78	3.00	1.05	24.41	21.96	4.43
18000	14.26	30.85	9.41	16.92	3.04	1.06	24.40	22.24	4.67
18500	13.92	30.83	9.50	16.37	3.16	1.05	23.95	22.22	5.02
19000	13.51	30.74	10.29	14.85	3.29	1.03	23.28	22.05	5.31
19500	13.10	31.01	10.97	13.44	3.49	1.02	22.50	21.92	5.81
20000	12.65	30.78	10.58	12.25	3.45	1.03	21.34	21.47	6.03

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 160mA @ 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)
50	21.62	70.15	8.05	9.14	99.06	1.02	35.68	24.57	2.75
100	19.49	68.16	12.48	22.18	127.19	1.05	35.50	24.35	3.15
500	17.95	65.95	19.54	21.49	123.34	1.00	35.54	23.86	3.28
1000	17.81	68.53	17.47	24.84	168.23	1.01	32.55	24.04	2.99
1500	17.71	70.99	15.58	26.63	223.83	1.03	33.55	24.12	2.84
2000	17.61	68.34	14.49	23.73	165.32	1.03	33.09	24.41	2.48
2500	17.42	65.75	13.79	20.24	123.74	1.03	33.05	24.57	2.17
3000	17.03	61.95	14.35	17.03	83.17	1.02	33.09	24.56	1.89
3500	16.61	55.31	17.87	15.78	41.23	0.99	33.22	24.43	2.03
4000	16.63	51.83	20.27	15.43	27.69	0.98	33.23	24.42	1.92
4500	16.74	49.68	20.35	15.11	21.30	0.98	33.10	24.35	1.55
5000	16.80	48.52	20.62	15.49	18.57	0.98	32.77	24.46	1.45
5500	16.80	46.78	19.95	15.76	15.22	0.98	32.73	24.27	1.51
6000	16.86	45.63	19.34	16.25	13.26	0.99	32.36	24.19	1.43
6500	16.96	44.35	20.47	15.95	11.32	0.98	32.18	24.05	1.17
7000	17.02	43.20	24.22	15.91	9.90	0.98	31.61	23.81	1.41
7500	17.01	42.10	26.45	15.91	8.75	0.97	31.03	23.71	1.41
8000	16.94	41.01	23.49	16.00	7.78	0.98	30.35	23.36	1.49
8500	16.80	40.29	20.42	16.23	7.25	0.98	29.89	23.38	1.68
9000	16.66	39.61	17.61	17.94	6.81	1.00	29.15	23.25	1.80
9500	16.46	39.28	14.95	20.53	6.66	1.02	28.86	23.33	1.80
10000	16.24	39.18	13.05	25.13	6.68	1.04	28.50	23.26	1.99
10500	16.09	38.81	12.11	26.80	6.45	1.05	27.98	23.18	2.13
11000	16.02	38.30	12.02	25.49	6.12	1.05	27.20	23.20	2.02
11500	16.00	37.67	12.48	22.17	5.74	1.04	27.17	23.11	2.16
12000	15.91	36.82	12.88	19.25	5.24	1.03	27.10	23.17	2.52
12500	15.83	35.85	12.59	17.85	4.68	1.03	26.67	22.88	2.47
13000	15.76	35.08	11.64	17.90	4.27	1.04	26.37	22.96	2.46
13500	15.80	34.60	10.13	17.20	3.94	1.06	26.41	22.96	2.67
14000	15.89	34.28	9.60	15.94	3.71	1.05	26.32	22.87	2.54
14500	16.03	34.06	10.35	16.52	3.62	1.05	26.11	22.93	2.51
15000	16.20	33.34	11.58	17.73	3.35	1.03	26.10	22.95	2.52
15500	16.40	33.00	11.56	19.11	3.18	1.03	26.19	23.03	2.75
16000	16.43	32.73	10.73	14.75	2.98	1.02	25.71	23.47	2.66
16500	16.40	32.57	10.42	11.83	2.78	1.01	25.48	23.08	2.90
17000	16.51	32.11	10.46	11.33	2.54	1.01	25.35	22.98	3.06
17500	16.68	31.48	9.90	12.15	2.38	1.01	24.95	22.61	3.20
18000	16.89	30.75	9.55	15.09	2.26	1.02	24.83	22.83	3.14
18500	17.02	30.35	10.52	19.50	2.23	1.02	24.67	22.94	3.30
19000	16.78	30.00	11.19	18.71	2.22	1.00	24.52	23.01	3.43
19500	16.52	30.04	10.89	15.37	2.24	1.00	24.24	23.14	3.89
20000	16.14	30.24	11.12	10.68	2.19	0.96	23.29	22.35	3.95

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 150mA @ 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)
50	21.31	70.71	8.06	9.14	109.34	1.01	34.89	24.82	2.76
100	19.19	68.17	12.48	22.17	131.83	1.05	34.27	24.27	3.15
500	17.64	65.81	19.41	21.48	125.67	1.00	34.28	23.70	3.25
1000	17.50	68.06	17.26	24.80	165.01	1.02	31.60	23.89	2.98
1500	17.39	70.51	15.39	26.55	219.33	1.03	32.48	24.01	2.81
2000	17.29	68.02	14.28	23.65	165.03	1.03	32.08	24.29	2.45
2500	17.09	65.97	13.60	20.19	131.70	1.03	31.95	24.48	2.19
3000	16.70	61.96	14.16	16.99	86.30	1.02	31.85	24.50	1.88
3500	16.28	55.30	17.64	15.74	42.74	0.99	31.92	24.42	1.96
4000	16.30	51.79	20.22	15.39	28.60	0.98	31.83	24.44	1.89
4500	16.42	49.64	20.46	15.07	22.01	0.98	31.72	24.39	1.49
5000	16.47	48.57	20.80	15.43	19.40	0.98	31.39	24.46	1.36
5500	16.48	46.75	20.16	15.74	15.74	0.98	31.23	24.32	1.51
6000	16.53	45.60	19.58	16.25	13.72	0.99	30.85	24.29	1.41
6500	16.62	44.31	20.72	16.03	11.71	0.98	30.68	24.23	1.15
7000	16.68	43.27	24.44	16.02	10.38	0.98	30.05	23.95	1.39
7500	16.67	42.13	25.82	16.04	9.14	0.98	29.58	23.75	1.37
8000	16.58	41.10	22.56	16.16	8.18	0.98	29.06	23.41	1.46
8500	16.43	40.42	19.66	16.37	7.66	0.99	28.68	23.32	1.70
9000	16.27	39.68	17.09	17.96	7.16	1.00	28.08	23.21	1.79
9500	16.07	39.33	14.61	20.37	6.99	1.02	27.84	23.27	1.79
10000	15.85	39.21	12.89	24.55	7.00	1.04	27.41	23.27	1.93
10500	15.68	38.83	12.04	26.40	6.76	1.05	27.16	23.21	2.06
11000	15.62	38.23	12.01	25.41	6.36	1.05	26.35	23.23	2.01
11500	15.59	37.60	12.51	22.31	5.97	1.04	26.27	23.14	2.13
12000	15.50	36.71	12.83	19.43	5.43	1.03	26.14	23.12	2.52
12500	15.41	35.77	12.40	17.91	4.86	1.04	25.80	22.89	2.42
13000	15.33	35.00	11.36	17.74	4.42	1.05	25.54	22.93	2.49
13500	15.37	34.53	9.90	16.94	4.08	1.06	25.58	22.91	2.66
14000	15.46	34.18	9.43	15.95	3.84	1.06	25.47	22.76	2.49
14500	15.60	34.06	10.25	16.77	3.79	1.05	25.28	22.78	2.52
15000	15.77	33.27	11.47	18.17	3.49	1.04	25.12	22.94	2.53
15500	15.93	32.96	11.48	19.68	3.33	1.04	25.10	23.15	2.76
16000	15.95	32.75	10.76	15.15	3.15	1.03	24.65	23.69	2.61
16500	15.91	32.53	10.52	12.21	2.94	1.01	24.45	23.36	2.90
17000	15.99	32.08	10.39	11.62	2.70	1.02	24.27	23.28	3.14
17500	16.10	31.51	9.69	12.20	2.54	1.02	23.87	22.93	3.22
18000	16.26	30.83	9.42	14.74	2.43	1.03	23.79	23.07	3.21
18500	16.36	30.46	10.47	18.48	2.41	1.02	23.58	23.11	3.37
19000	16.10	30.14	11.22	18.17	2.42	1.01	23.40	23.13	3.53
19500	15.79	30.19	10.98	15.29	2.46	1.00	23.13	23.26	3.99
20000	15.38	30.42	11.09	10.89	2.43	0.98	22.21	22.56	4.08

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 170mA @ 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)
50	21.80	70.72	8.07	9.14	103.52	1.01	37.43	24.03	2.84
100	19.68	68.42	12.52	22.18	128.27	1.05	37.33	24.00	3.15
500	18.14	66.13	19.65	21.51	123.19	1.00	36.64	23.65	3.28
1000	18.01	68.80	17.61	24.84	169.78	1.01	33.56	23.85	2.99
1500	17.92	72.05	15.74	26.59	247.33	1.02	35.08	23.90	2.83
2000	17.82	68.81	14.63	23.68	170.50	1.03	34.65	24.19	2.46
2500	17.63	65.93	13.94	20.21	123.49	1.03	34.52	24.31	2.23
3000	17.24	61.62	14.46	17.01	78.21	1.02	34.69	24.29	1.91
3500	16.82	55.19	17.99	15.77	39.70	0.99	34.88	24.15	2.03
4000	16.84	51.72	20.29	15.43	26.71	0.98	35.01	24.25	1.98
4500	16.95	49.70	20.29	15.10	20.85	0.98	34.65	24.09	1.53
5000	17.00	48.50	20.45	15.50	18.10	0.98	34.27	24.17	1.44
5500	17.01	46.78	19.87	15.77	14.85	0.98	34.03	23.99	1.52
6000	17.06	45.65	19.35	16.24	12.98	0.99	33.55	23.84	1.42
6500	17.16	44.35	20.39	15.96	11.06	0.98	33.24	23.72	1.15
7000	17.22	43.23	24.05	15.93	9.71	0.98	32.66	23.52	1.40
7500	17.22	42.05	26.86	15.90	8.50	0.97	31.93	23.45	1.37
8000	17.15	40.97	24.11	16.00	7.57	0.98	31.16	23.09	1.45
8500	17.00	40.21	20.97	16.23	7.02	0.98	30.64	23.21	1.72
9000	16.86	39.55	17.98	17.93	6.62	1.00	29.91	23.04	1.80
9500	16.65	39.24	15.18	20.59	6.49	1.02	29.62	23.08	1.82
10000	16.44	39.19	13.17	25.07	6.55	1.04	29.06	23.03	1.99
10500	16.27	38.90	12.18	26.52	6.39	1.05	28.65	22.87	2.16
11000	16.21	38.39	12.06	25.05	6.06	1.05	27.77	22.87	1.97
11500	16.20	37.79	12.48	21.76	5.68	1.04	27.70	22.68	2.15
12000	16.12	36.93	12.89	18.90	5.18	1.03	27.58	22.81	2.51
12500	16.04	35.95	12.67	17.62	4.62	1.03	27.23	22.50	2.43
13000	15.99	35.16	11.78	18.04	4.21	1.04	26.92	22.63	2.41
13500	16.05	34.66	10.30	17.57	3.88	1.05	26.99	22.65	2.68
14000	16.14	34.35	9.72	16.21	3.66	1.05	26.95	22.56	2.50
14500	16.27	34.13	10.49	16.68	3.57	1.04	26.88	22.55	2.55
15000	16.45	33.36	11.73	17.72	3.28	1.03	26.85	22.58	2.48
15500	16.66	32.99	11.63	19.13	3.09	1.03	27.01	22.62	2.70
16000	16.70	32.74	10.71	14.68	2.89	1.02	26.40	23.11	2.66
16500	16.68	32.57	10.39	11.63	2.69	1.00	26.27	22.63	2.82
17000	16.82	32.09	10.53	11.14	2.45	1.00	26.13	22.58	3.00
17500	17.01	31.47	10.03	12.06	2.29	1.01	25.67	22.14	3.14
18000	17.26	30.71	9.60	15.23	2.17	1.02	25.60	22.41	3.12
18500	17.39	30.27	10.52	20.36	2.13	1.01	25.35	22.51	3.25
19000	17.17	29.91	11.16	19.39	2.12	1.00	25.20	22.66	3.38
19500	16.91	29.90	10.76	15.56	2.12	0.99	25.06	22.78	3.78
20000	16.56	30.09	11.06	10.61	2.07	0.96	24.17	21.91	3.76

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 160mA @ 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)
50	19.97	69.78	10.44	9.19	123.76	0.96	35.74	25.07	7.42
100	18.25	67.74	15.41	20.47	143.46	1.02	35.13	24.54	6.04
500	17.01	65.25	19.42	21.90	126.86	1.00	33.68	23.61	4.62
1000	16.85	63.10	16.96	25.76	100.32	1.02	35.24	23.81	4.17
1500	16.72	60.16	15.13	27.23	71.96	1.03	35.21	23.87	3.89
2000	16.54	57.77	13.81	24.13	55.00	1.04	35.60	24.23	3.47
2500	16.27	56.86	12.98	20.69	50.38	1.04	35.80	24.32	3.19
3000	15.74	57.45	13.54	18.12	57.24	1.03	35.78	24.39	2.89
3500	15.32	53.93	16.98	16.79	40.86	1.00	35.63	24.18	2.89
4000	15.39	50.52	20.88	16.32	27.64	0.98	34.85	24.29	2.77
4500	15.45	48.46	21.91	15.94	21.67	0.98	34.59	23.97	2.34
5000	15.42	47.22	21.38	16.41	18.89	0.98	33.95	24.14	2.27
5500	15.39	45.69	21.71	17.51	15.97	0.99	33.71	23.71	2.39
6000	15.34	44.59	23.89	17.96	14.22	0.99	32.87	23.68	2.35
6500	15.16	43.70	28.58	17.81	13.14	0.98	32.67	23.20	2.33
7000	14.75	43.05	32.87	16.69	12.73	0.98	32.00	22.98	2.78
7500	14.18	42.51	27.04	15.26	12.64	0.97	31.58	22.53	2.98
8000	13.72	41.87	23.05	13.88	12.21	0.96	31.08	22.23	3.17
8500	13.64	41.06	20.67	13.22	11.09	0.96	30.93	22.18	3.44
9000	13.86	39.90	18.77	13.58	9.45	0.97	30.65	22.35	3.42
9500	14.11	38.88	16.65	14.77	8.19	0.99	30.59	22.55	3.27
10000	14.28	38.09	15.12	16.28	7.36	1.00	30.60	22.82	3.34
10500	14.38	37.34	14.24	17.63	6.69	1.01	30.63	22.91	3.41
11000	14.48	36.41	13.91	19.59	5.98	1.02	30.45	23.01	3.15
11500	14.52	35.55	14.03	23.15	5.43	1.02	30.24	22.69	3.28
12000	14.48	34.67	14.09	31.05	4.95	1.03	29.96	22.91	3.71
12500	14.39	33.85	13.29	30.73	4.53	1.03	29.44	22.84	3.63
13000	14.29	33.11	12.40	25.29	4.17	1.04	29.43	22.77	3.61
13500	14.21	32.76	11.67	24.58	4.00	1.05	29.29	22.71	3.94
14000	14.06	32.66	10.83	24.79	3.97	1.06	28.78	22.62	3.94
14500	13.81	32.69	10.02	19.84	4.00	1.07	28.09	22.42	4.14
15000	13.48	32.75	9.54	15.00	4.04	1.06	27.63	22.16	4.35
15500	13.20	32.79	9.72	12.30	4.04	1.04	27.24	22.09	4.69
16000	13.02	32.58	10.45	11.40	3.99	1.02	26.80	22.11	4.79
16500	13.06	32.27	10.80	12.13	3.93	1.02	26.49	21.99	4.92
17000	13.17	31.72	10.76	15.55	3.82	1.04	26.05	21.23	5.21
17500	13.05	31.33	10.66	24.12	3.80	1.07	26.13	21.35	5.49
18000	12.66	31.26	9.92	26.24	3.86	1.09	26.04	21.71	5.81
18500	12.24	31.30	9.10	20.09	3.97	1.09	25.67	22.03	6.19
19000	11.80	31.08	8.76	14.90	3.98	1.07	25.22	22.01	6.54
19500	11.49	31.24	9.25	12.33	4.08	1.04	24.42	21.86	7.03
20000	11.25	30.85	9.71	11.78	3.95	1.04	23.53	21.35	7.14

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 150mA @ 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)
50	19.84	69.94	10.45	9.23	128.16	0.96	35.53	25.16	7.23
100	18.13	67.64	15.44	20.37	143.85	1.02	34.49	24.50	5.92
500	16.89	64.68	19.46	21.72	120.35	1.00	33.13	23.28	4.59
1000	16.73	62.16	16.99	25.55	91.32	1.02	34.83	23.48	4.15
1500	16.60	59.17	15.17	27.33	65.11	1.03	34.61	23.62	3.89
2000	16.43	56.77	13.85	24.39	49.68	1.04	34.99	23.88	3.44
2500	16.15	55.79	13.04	20.91	45.20	1.04	35.51	24.12	3.18
3000	15.63	56.44	13.58	18.28	51.67	1.03	35.30	24.06	2.86
3500	15.22	53.55	17.02	16.92	39.64	1.00	35.31	24.00	2.89
4000	15.28	50.27	20.87	16.43	27.24	0.99	34.65	23.87	2.72
4500	15.34	48.21	21.89	16.02	21.32	0.98	34.43	23.79	2.30
5000	15.30	46.97	21.33	16.47	18.59	0.98	33.92	23.79	2.23
5500	15.27	45.51	21.69	17.54	15.85	0.99	33.85	23.57	2.40
6000	15.22	44.42	23.86	17.95	14.15	0.99	33.07	23.42	2.40
6500	15.04	43.56	28.56	17.79	13.11	0.98	32.87	23.05	2.26
7000	14.63	42.93	33.57	16.66	12.74	0.98	32.21	22.67	2.72
7500	14.05	42.45	27.31	15.21	12.75	0.97	31.99	22.20	2.95
8000	13.60	41.86	23.19	13.84	12.37	0.96	31.49	21.82	3.23
8500	13.53	41.01	20.78	13.22	11.18	0.96	31.48	21.88	3.39
9000	13.76	39.84	18.86	13.61	9.51	0.97	31.08	22.00	3.40
9500	14.01	38.82	16.77	14.83	8.24	0.99	31.12	22.27	3.25
10000	14.18	38.00	15.23	16.36	7.38	1.00	31.12	22.56	3.31
10500	14.28	37.23	14.34	17.69	6.69	1.01	31.10	22.71	3.31
11000	14.37	36.30	13.97	19.62	5.98	1.02	31.01	22.82	3.13
11500	14.41	35.43	14.01	23.13	5.43	1.02	30.79	22.52	3.25
12000	14.36	34.53	14.03	30.90	4.94	1.03	30.40	22.63	3.61
12500	14.27	33.71	13.29	30.53	4.52	1.03	30.00	22.48	3.60
13000	14.17	32.96	12.46	25.22	4.16	1.04	29.88	22.44	3.62
13500	14.09	32.62	11.79	24.51	4.00	1.05	29.87	22.39	3.91
14000	13.93	32.51	10.96	24.58	3.96	1.06	29.32	22.32	3.86
14500	13.68	32.52	10.08	19.68	3.99	1.07	28.69	22.12	4.11
15000	13.34	32.60	9.58	14.90	4.03	1.06	28.16	21.91	4.28
15500	13.06	32.66	9.70	12.25	4.04	1.04	27.83	21.98	4.67
16000	12.88	32.45	10.38	11.39	3.98	1.02	27.47	22.15	4.63
16500	12.93	32.16	10.75	12.18	3.94	1.02	27.13	22.08	4.90
17000	13.04	31.60	10.77	15.76	3.83	1.04	26.75	21.36	5.17
17500	12.91	31.23	10.73	24.79	3.82	1.07	26.83	21.38	5.41
18000	12.53	31.17	10.02	26.76	3.89	1.09	26.81	21.70	5.77
18500	12.12	31.20	9.17	20.36	3.99	1.09	26.42	21.99	6.17
19000	11.69	30.99	8.80	14.98	3.99	1.07	25.90	22.17	6.51
19500	11.38	31.13	9.26	12.32	4.07	1.05	25.16	22.22	7.01
20000	11.16	30.72	9.69	11.72	3.93	1.04	24.39	21.47	6.94

MMIC Amplifier Die

AVA-183MP-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: Vd = 8.00V, Id = 170mA @ 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)
50	20.08	70.24	10.46	9.15	128.79	0.96	36.78	24.40	7.64
100	18.36	67.98	15.43	20.50	145.65	1.02	35.50	24.06	6.22
500	17.12	65.25	19.44	22.01	125.31	1.00	34.10	23.39	4.64
1000	16.96	63.62	16.97	25.90	105.21	1.02	35.75	23.59	4.18
1500	16.82	60.85	15.14	27.14	76.92	1.03	35.53	23.56	3.95
2000	16.65	58.38	13.82	23.96	58.25	1.04	35.89	24.01	3.49
2500	16.38	57.49	12.98	20.55	53.49	1.04	35.95	24.03	3.21
3000	15.85	58.01	13.52	18.01	60.27	1.03	35.87	24.18	2.92
3500	15.43	54.14	16.98	16.71	41.32	1.00	35.62	23.88	2.95
4000	15.50	50.66	20.88	16.26	27.73	0.98	34.83	24.19	2.78
4500	15.55	48.55	21.90	15.90	21.62	0.98	34.55	23.68	2.35
5000	15.52	47.33	21.35	16.40	18.88	0.98	33.84	23.93	2.29
5500	15.50	45.76	21.72	17.53	15.92	0.99	33.54	23.39	2.46
6000	15.45	44.66	23.94	18.00	14.17	0.99	32.76	23.47	2.34
6500	15.26	43.75	28.60	17.85	13.06	0.98	32.49	22.91	2.31
7000	14.86	43.06	33.14	16.66	12.59	0.98	31.75	22.77	2.80
7500	14.28	42.52	27.08	15.17	12.50	0.97	31.36	22.34	3.03
8000	13.83	41.89	23.11	13.78	12.08	0.96	30.87	22.15	3.22
8500	13.76	41.02	20.76	13.14	10.88	0.96	30.62	22.13	3.46
9000	13.99	39.86	18.88	13.52	9.27	0.97	30.39	22.28	3.46
9500	14.25	38.87	16.69	14.73	8.06	0.99	30.28	22.41	3.36
10000	14.41	38.11	15.12	16.27	7.26	1.00	30.29	22.59	3.34
10500	14.51	37.38	14.22	17.65	6.62	1.01	30.28	22.69	3.32
11000	14.61	36.47	13.90	19.67	5.93	1.02	30.14	22.77	3.15
11500	14.65	35.61	14.05	23.26	5.39	1.02	29.96	22.49	3.33
12000	14.60	34.73	14.15	31.03	4.92	1.03	29.46	22.75	3.64
12500	14.52	33.91	13.35	30.67	4.50	1.03	29.07	22.78	3.63
13000	14.42	33.17	12.42	25.34	4.14	1.04	29.02	22.71	3.65
13500	14.34	32.84	11.64	24.63	3.98	1.05	28.87	22.58	3.93
14000	14.18	32.77	10.81	24.87	3.96	1.06	28.41	22.49	3.92
14500	13.94	32.75	9.99	19.91	3.97	1.07	27.85	22.25	4.23
15000	13.60	32.82	9.53	15.02	4.02	1.06	27.36	21.91	4.40
15500	13.32	32.86	9.72	12.30	4.02	1.03	26.89	21.76	4.73
16000	13.15	32.62	10.48	11.39	3.95	1.02	26.50	21.68	4.66
16500	13.19	32.32	10.83	12.09	3.89	1.02	26.09	21.55	4.94
17000	13.31	31.73	10.75	15.52	3.75	1.04	25.69	20.79	5.08
17500	13.21	31.34	10.61	24.13	3.73	1.07	25.69	21.02	5.55
18000	12.83	31.21	9.88	25.99	3.76	1.09	25.62	21.35	5.81
18500	12.42	31.28	9.06	20.18	3.88	1.10	25.26	21.66	6.27
19000	11.99	31.06	8.76	15.02	3.89	1.07	24.78	21.56	6.54
19500	11.70	31.18	9.27	12.44	3.97	1.04	24.00	21.35	7.05
20000	11.48	30.74	9.79	11.93	3.82	1.04	23.17	21.04	7.05