

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5.00V, Id = 144.67mA @ 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)
20	19.71	23.78	7.20	9.89	0.88	0.69	40.34	21.55	1.62
100	16.98	20.84	16.41	18.41	1.06	0.62	40.67	22.45	1.68
200	16.63	20.67	19.76	21.39	1.09	0.62	41.01	22.54	1.70
300	16.51	20.63	20.34	22.28	1.10	0.62	40.82	22.62	1.73
400	16.42	20.60	19.94	22.61	1.10	0.63	40.03	22.50	1.67
500	16.33	20.57	19.31	22.81	1.10	0.64	41.12	22.71	1.77
600	16.23	20.53	18.54	22.81	1.10	0.65	40.65	22.63	1.77
700	16.12	20.49	17.78	22.95	1.10	0.65	40.50	22.65	1.75
800	16.00	20.44	17.02	22.96	1.11	0.66	40.74	22.72	1.81
900	15.88	20.38	16.34	22.99	1.11	0.67	39.92	22.52	1.81
1000	15.74	20.32	15.69	22.98	1.11	0.68	41.21	22.77	1.86
1200	15.45	20.18	14.60	22.84	1.11	0.71	40.52	22.62	1.89
1400	15.14	20.01	13.69	22.68	1.11	0.73	40.37	22.58	1.95
1600	14.81	19.83	12.94	22.46	1.11	0.75	40.82	22.68	2.06
1800	14.46	19.64	12.35	22.17	1.11	0.77	42.24	22.77	2.03
2000	14.12	19.43	11.86	21.82	1.11	0.79	42.12	22.72	2.06
2200	13.77	19.20	11.48	21.40	1.11	0.80	40.57	22.40	2.06
2400	13.44	18.96	11.15	20.94	1.11	0.82	41.88	22.64	2.12
2600	13.11	18.72	10.87	20.39	1.10	0.83	44.47	23.14	2.16
2800	12.77	18.47	10.66	19.96	1.10	0.84	44.99	23.07	2.29
3000	12.46	18.21	10.48	19.46	1.10	0.85	42.82	23.20	2.17
3200	12.15	17.94	10.37	19.01	1.09	0.85	42.72	22.90	2.24
3400	11.86	17.67	10.28	18.56	1.09	0.85	43.89	23.12	2.23
3600	11.59	17.39	10.23	18.07	1.09	0.86	43.98	23.24	2.25
3800	11.32	17.10	10.26	17.64	1.08	0.85	43.78	23.42	2.40
4000	11.08	16.81	10.31	17.23	1.08	0.85	43.00	23.16	2.32
4200	10.85	16.51	10.38	16.82	1.07	0.84	43.02	23.09	2.42
4400	10.64	16.19	10.50	16.43	1.07	0.83	43.03	23.09	2.43
4600	10.44	15.90	10.66	16.24	1.06	0.82	44.15	23.18	2.51
4800	10.26	15.57	10.80	16.08	1.05	0.81	42.76	22.99	2.53
5000	10.08	15.27	10.98	16.10	1.05	0.80	43.28	23.54	2.57
5200	9.92	14.95	11.07	16.06	1.04	0.79	42.45	22.99	2.54
5400	9.76	14.64	11.09	16.14	1.03	0.78	41.31	22.35	2.73
5600	9.59	14.35	11.00	16.31	1.02	0.77	42.93	22.76	2.76
5800	9.41	14.08	10.85	16.42	1.02	0.77	43.70	23.07	2.78
6000	9.26	13.80	10.49	16.16	1.01	0.76	42.18	22.90	2.83
6200	9.07	13.54	10.05	15.83	0.99	0.76	41.05	22.50	2.90
6400	8.87	13.32	9.54	15.29	0.99	0.76	41.75	22.35	3.03
6600	8.68	13.10	8.97	14.57	0.97	0.76	43.50	22.65	3.16
6800	8.46	12.91	8.30	13.69	0.96	0.76	41.66	22.52	3.22
7000	8.22	12.74	7.64	12.79	0.95	0.77	41.05	22.28	3.43

## 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 = 4.75V, Id = 130.12mA @ 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)			(dBm)	(dBm)	(dB)
20	19.65	23.76	7.20	9.87	0.88	0.70	39.34	21.02	1.57
100	16.92	20.81	16.32	18.42	1.05	0.62	41.11	21.86	1.65
200	16.57	20.64	19.58	21.44	1.09	0.62	42.14	21.94	1.69
300	16.45	20.60	20.15	22.34	1.10	0.63	42.01	22.02	1.67
400	16.36	20.57	19.76	22.65	1.10	0.63	40.82	21.91	1.62
500	16.27	20.53	19.15	22.80	1.10	0.64	42.20	22.12	1.73
600	16.17	20.49	18.38	22.75	1.10	0.65	41.51	22.05	1.72
700	16.06	20.44	17.63	22.83	1.10	0.66	41.11	22.07	1.73
800	15.94	20.39	16.88	22.78	1.11	0.67	41.42	22.14	1.76
900	15.81	20.34	16.21	22.74	1.11	0.68	40.19	21.95	1.75
1000	15.68	20.27	15.57	22.66	1.11	0.69	41.00	22.19	1.86
1200	15.38	20.13	14.50	22.40	1.11	0.71	40.07	22.05	1.84
1400	15.07	19.96	13.59	22.15	1.11	0.73	39.92	22.01	1.93
1600	14.73	19.77	12.84	21.85	1.11	0.75	39.99	22.10	1.99
1800	14.39	19.58	12.27	21.53	1.11	0.77	40.60	22.19	1.99
2000	14.04	19.36	11.78	21.17	1.10	0.79	39.93	22.14	2.05
2200	13.70	19.13	11.41	20.77	1.10	0.80	38.65	21.84	2.02
2400	13.36	18.90	11.08	20.36	1.10	0.82	39.77	22.08	2.07
2600	13.02	18.65	10.81	19.86	1.10	0.83	41.13	22.53	2.13
2800	12.69	18.40	10.60	19.50	1.10	0.84	41.25	22.47	2.26
3000	12.38	18.14	10.43	19.07	1.09	0.85	40.03	22.59	2.15
3200	12.07	17.87	10.32	18.68	1.09	0.85	39.87	22.33	2.30
3400	11.78	17.60	10.23	18.30	1.09	0.86	40.43	22.53	2.16
3600	11.51	17.31	10.19	17.87	1.09	0.86	40.54	22.65	2.26
3800	11.24	17.03	10.23	17.50	1.08	0.85	40.51	22.83	2.35
4000	11.00	16.74	10.28	17.14	1.08	0.85	39.78	22.59	2.36
4200	10.77	16.44	10.34	16.77	1.07	0.84	39.70	22.54	2.39
4400	10.56	16.12	10.49	16.42	1.06	0.83	39.50	22.53	2.36
4600	10.36	15.83	10.65	16.25	1.06	0.82	40.30	22.62	2.48
4800	10.18	15.50	10.78	16.10	1.05	0.81	39.53	22.44	2.49
5000	10.00	15.20	10.98	16.12	1.05	0.80	40.42	22.95	2.51
5200	9.84	14.88	11.06	16.08	1.04	0.79	39.22	22.44	2.47
5400	9.68	14.57	11.09	16.13	1.03	0.78	38.21	21.84	2.61
5600	9.51	14.29	11.00	16.27	1.02	0.77	39.58	22.22	2.71
5800	9.33	14.02	10.84	16.32	1.02	0.76	40.19	22.53	2.72
6000	9.18	13.74	10.50	16.03	1.01	0.76	39.19	22.36	2.81
6200	8.99	13.48	10.04	15.63	1.00	0.76	38.23	21.98	2.84
6400	8.79	13.26	9.55	15.04	0.99	0.76	38.44	21.86	2.90
6600	8.59	13.05	8.97	14.29	0.98	0.76	39.69	22.13	3.07
6800	8.37	12.87	8.30	13.41	0.97	0.76	38.74	22.00	3.19
7000	8.12	12.71	7.64	12.52	0.95	0.76	38.08	21.77	3.30

# Monolithic Amplifier

# LHA-1H+

## 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 = 5.25V, Id = 159.70mA @ 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)
20	19.73	23.79	7.36	9.95	0.89	0.69	40.41	22.06	1.75
100	17.04	20.91	16.55	18.62	1.06	0.62	40.30	22.97	1.74
200	16.70	20.74	19.82	21.72	1.09	0.62	40.28	23.06	1.75
300	16.59	20.70	20.37	22.68	1.10	0.62	40.40	23.14	1.75
400	16.50	20.67	19.97	23.06	1.10	0.63	39.77	23.01	1.71
500	16.40	20.64	19.31	23.27	1.10	0.64	40.76	23.22	1.78
600	16.31	20.60	18.54	23.31	1.10	0.64	40.26	23.13	1.84
700	16.20	20.56	17.76	23.47	1.11	0.65	40.08	23.14	1.83
800	16.08	20.51	17.01	23.51	1.11	0.66	40.55	23.22	1.87
900	15.95	20.45	16.32	23.56	1.11	0.67	39.86	23.01	1.83
1000	15.82	20.39	15.66	23.55	1.11	0.68	40.87	23.28	1.91
1200	15.53	20.25	14.59	23.43	1.11	0.71	40.63	23.11	1.95
1400	15.21	20.09	13.67	23.27	1.11	0.73	40.31	23.07	2.00
1600	14.88	19.92	12.91	23.02	1.11	0.75	41.26	23.18	2.06
1800	14.54	19.72	12.32	22.67	1.11	0.77	43.11	23.28	2.07
2000	14.19	19.51	11.83	22.24	1.11	0.79	43.75	23.24	2.16
2200	13.84	19.29	11.44	21.73	1.11	0.80	41.93	22.90	2.09
2400	13.50	19.05	11.12	21.20	1.11	0.82	42.98	23.15	2.18
2600	13.17	18.80	10.83	20.56	1.10	0.83	46.79	23.68	2.28
2800	12.84	18.56	10.62	20.06	1.10	0.84	47.79	23.61	2.35
3000	12.52	18.30	10.44	19.49	1.10	0.85	47.49	23.74	2.30
3200	12.21	18.03	10.32	18.97	1.10	0.85	46.05	23.41	2.32
3400	11.92	17.76	10.21	18.47	1.09	0.86	50.17	23.65	2.28
3600	11.64	17.47	10.17	17.94	1.09	0.86	54.63	23.76	2.43
3800	11.38	17.19	10.19	17.48	1.08	0.85	49.99	23.96	2.47
4000	11.13	16.90	10.24	17.04	1.08	0.85	49.49	23.67	2.45
4200	10.90	16.59	10.30	16.61	1.07	0.84	50.15	23.59	2.53
4400	10.70	16.27	10.43	16.22	1.06	0.83	50.87	23.58	2.54
4600	10.49	15.98	10.59	16.03	1.06	0.82	50.18	23.67	2.60
4800	10.31	15.64	10.72	15.86	1.05	0.81	48.06	23.47	2.61
5000	10.13	15.34	10.89	15.88	1.05	0.80	45.49	24.04	2.72
5200	9.97	15.02	10.98	15.85	1.04	0.79	46.01	23.48	2.69
5400	9.81	14.70	10.99	15.95	1.03	0.78	45.55	22.82	2.80
5600	9.64	14.41	10.89	16.15	1.02	0.77	46.47	23.24	2.93
5800	9.47	14.14	10.73	16.29	1.01	0.77	46.45	23.56	2.93
6000	9.31	13.85	10.38	16.11	1.00	0.76	44.88	23.38	3.00
6200	9.13	13.59	9.95	15.82	0.99	0.76	43.89	22.97	3.05
6400	8.93	13.36	9.44	15.34	0.98	0.76	44.38	22.82	3.21
6600	8.73	13.14	8.87	14.65	0.97	0.76	45.03	23.13	3.32
6800	8.51	12.94	8.22	13.79	0.96	0.77	43.54	23.00	3.43
7000	8.27	12.77	7.56	12.91	0.95	0.77	43.19	22.76	3.58



## 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: Vd = 5.00V, Id = 133.10mA @ 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)
20	19.80	23.72	6.80	9.35	0.85	0.69	41.97	21.48	1.60
100	16.62	20.37	15.74	16.61	1.04	0.61	37.46	22.37	1.35
200	16.18	20.15	19.75	19.16	1.08	0.61	36.86	22.46	1.38
300	16.04	20.11	20.73	19.40	1.09	0.61	36.68	22.55	1.44
400	15.95	20.08	20.52	19.38	1.10	0.61	36.12	22.46	1.36
500	15.87	20.05	20.08	19.43	1.10	0.62	36.83	22.66	1.46
600	15.78	20.03	19.36	19.37	1.10	0.62	36.54	22.60	1.43
700	15.69	19.99	18.74	19.62	1.10	0.63	36.40	22.64	1.43
800	15.60	19.95	18.13	19.89	1.11	0.64	36.75	22.71	1.49
900	15.49	19.90	17.42	20.22	1.11	0.65	36.16	22.54	1.45
1000	15.39	19.85	16.87	20.81	1.11	0.66	37.38	22.75	1.55
1200	15.15	19.73	15.82	22.00	1.11	0.68	36.90	22.69	1.52
1400	14.89	19.59	14.93	22.58	1.11	0.69	36.74	22.64	1.56
1600	14.62	19.44	14.08	23.21	1.11	0.71	37.28	22.70	1.61
1800	14.33	19.27	13.43	23.40	1.12	0.73	38.27	22.76	1.64
2000	14.03	19.09	12.97	23.50	1.12	0.74	38.68	22.70	1.64
2200	13.72	18.90	12.61	23.09	1.12	0.76	37.42	22.41	1.60
2400	13.42	18.70	12.26	22.55	1.12	0.77	37.98	22.58	1.66
2600	13.11	18.49	11.92	22.17	1.12	0.79	40.19	23.05	1.74
2800	12.82	18.27	11.62	22.13	1.11	0.80	40.73	22.99	1.75
3000	12.53	18.03	11.43	22.01	1.11	0.81	40.93	23.16	1.67
3200	12.27	17.77	11.40	21.36	1.11	0.81	39.64	22.89	1.85
3400	12.00	17.52	11.25	20.92	1.11	0.81	41.11	23.12	1.72
3600	11.75	17.26	11.17	20.27	1.10	0.81	41.78	23.20	1.84
3800	11.49	17.01	11.02	19.71	1.09	0.82	42.83	23.39	1.95
4000	11.24	16.75	11.03	18.83	1.09	0.82	41.71	23.12	1.89
4200	11.02	16.47	11.11	17.84	1.08	0.81	41.59	23.10	1.92
4400	10.82	16.18	11.22	17.01	1.07	0.80	41.93	23.17	1.88
4600	10.63	15.90	11.40	16.67	1.07	0.79	43.56	23.24	1.95
4800	10.49	15.56	11.70	16.39	1.06	0.77	43.70	23.16	2.00
5000	10.34	15.25	11.69	17.16	1.06	0.76	48.33	23.75	2.02
5200	10.17	14.95	11.37	18.20	1.05	0.76	44.37	23.22	1.99
5400	10.00	14.68	11.34	18.08	1.04	0.76	42.92	22.54	2.19
5600	9.84	14.40	11.61	17.45	1.03	0.74	44.30	22.85	2.21
5800	9.68	14.13	11.27	17.72	1.02	0.74	46.30	23.13	2.25
6000	9.52	13.86	10.88	17.45	1.01	0.74	46.45	23.09	2.29
6200	9.35	13.62	10.40	17.00	1.00	0.73	45.00	22.70	2.30
6400	9.17	13.40	10.18	16.33	0.99	0.73	44.96	22.41	2.39
6600	9.01	13.15	9.66	15.60	0.98	0.72	44.28	22.54	2.50
6800	8.81	12.96	9.08	14.58	0.97	0.72	47.50	22.56	2.59
7000	8.58	12.79	8.38	13.72	0.96	0.73	46.51	22.36	2.70

## 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 = 4.75V, Id = 118.21mA @ 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)			(dBm)	(dBm)	(dB)
20	19.72	23.66	6.82	9.26	0.85	0.69	41.14	20.89	1.45
100	16.55	20.31	15.72	16.70	1.04	0.61	37.68	21.71	1.29
200	16.11	20.09	19.73	19.41	1.08	0.61	37.30	21.81	1.35
300	15.97	20.05	20.75	19.72	1.09	0.61	37.15	21.90	1.35
400	15.88	20.02	20.55	19.71	1.10	0.61	36.47	21.82	1.33
500	15.80	19.99	20.11	19.75	1.10	0.62	37.44	22.01	1.42
600	15.71	19.97	19.39	19.69	1.10	0.63	37.00	21.96	1.41
700	15.63	19.93	18.75	19.93	1.10	0.63	36.80	22.00	1.39
800	15.53	19.89	18.15	20.20	1.11	0.64	37.25	22.07	1.45
900	15.43	19.85	17.43	20.52	1.11	0.65	36.48	21.90	1.46
1000	15.32	19.80	16.86	21.10	1.11	0.66	38.10	22.11	1.55
1200	15.09	19.68	15.79	22.28	1.11	0.68	37.17	22.02	1.48
1400	14.83	19.55	14.90	22.81	1.11	0.70	37.06	21.99	1.54
1600	14.56	19.39	14.04	23.38	1.11	0.71	37.58	22.04	1.60
1800	14.27	19.23	13.40	23.50	1.12	0.73	38.55	22.10	1.58
2000	13.97	19.05	12.93	23.49	1.12	0.75	38.63	22.03	1.61
2200	13.67	18.87	12.57	23.00	1.12	0.76	37.44	21.76	1.57
2400	13.37	18.67	12.21	22.39	1.12	0.77	37.94	21.93	1.64
2600	13.06	18.47	11.87	21.93	1.12	0.79	40.25	22.38	1.71
2800	12.76	18.25	11.56	21.82	1.11	0.80	40.46	22.33	1.78
3000	12.48	18.02	11.35	21.65	1.11	0.81	40.27	22.48	1.66
3200	12.22	17.76	11.34	21.02	1.11	0.81	39.32	22.24	1.80
3400	11.95	17.51	11.18	20.59	1.11	0.82	40.52	22.45	1.73
3600	11.70	17.25	11.10	19.97	1.10	0.82	40.93	22.53	1.82
3800	11.44	17.00	10.96	19.45	1.10	0.82	41.53	22.71	1.86
4000	11.20	16.75	10.96	18.59	1.09	0.82	40.16	22.46	1.87
4200	10.98	16.47	11.04	17.63	1.08	0.81	40.12	22.45	1.91
4400	10.77	16.18	11.14	16.85	1.08	0.80	40.52	22.52	1.90
4600	10.59	15.91	11.32	16.53	1.07	0.79	41.48	22.60	1.90
4800	10.45	15.56	11.62	16.27	1.06	0.77	41.25	22.51	1.95
5000	10.29	15.25	11.63	17.04	1.06	0.76	43.04	23.07	2.02
5200	10.14	14.96	11.30	18.05	1.05	0.77	41.16	22.56	2.05
5400	9.96	14.68	11.27	17.93	1.04	0.76	40.18	21.94	2.10
5600	9.81	14.41	11.53	17.31	1.03	0.75	41.29	22.25	2.19
5800	9.64	14.14	11.21	17.57	1.03	0.74	42.26	22.51	2.20
6000	9.49	13.87	10.81	17.30	1.01	0.74	41.66	22.46	2.21
6200	9.31	13.63	10.35	16.85	1.00	0.74	41.02	22.10	2.26
6400	9.13	13.41	10.14	16.21	1.00	0.73	41.31	21.85	2.32
6600	8.97	13.16	9.62	15.48	0.98	0.73	42.11	21.97	2.51
6800	8.77	12.97	9.05	14.49	0.98	0.73	42.76	22.01	2.53
7000	8.55	12.80	8.36	13.63	0.96	0.73	41.76	21.81	2.64

## 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 = 5.25V, Id = 148.74mA @ 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)
20	19.86	23.76	6.95	9.46	0.85	0.69	43.21	22.05	1.74
100	16.71	20.46	15.89	16.70	1.04	0.61	37.24	22.97	1.39
200	16.28	20.25	19.87	19.18	1.08	0.61	36.70	23.06	1.45
300	16.14	20.20	20.79	19.40	1.09	0.61	36.52	23.14	1.41
400	16.05	20.17	20.57	19.38	1.10	0.61	35.97	23.04	1.39
500	15.97	20.15	20.08	19.42	1.10	0.62	36.64	23.24	1.49
600	15.89	20.12	19.35	19.37	1.10	0.62	36.32	23.17	1.47
700	15.80	20.08	18.72	19.62	1.10	0.63	36.24	23.21	1.47
800	15.70	20.04	18.11	19.90	1.11	0.64	36.54	23.29	1.52
900	15.59	19.99	17.39	20.24	1.11	0.65	36.04	23.11	1.52
1000	15.49	19.94	16.85	20.83	1.11	0.66	37.12	23.35	1.58
1200	15.25	19.81	15.77	22.05	1.11	0.68	36.75	23.27	1.54
1400	14.98	19.67	14.88	22.66	1.11	0.69	36.58	23.22	1.59
1600	14.71	19.51	14.03	23.31	1.11	0.71	37.22	23.28	1.66
1800	14.41	19.34	13.40	23.53	1.11	0.73	38.18	23.35	1.68
2000	14.11	19.15	12.93	23.64	1.12	0.74	38.62	23.29	1.72
2200	13.80	18.96	12.58	23.25	1.12	0.76	37.57	22.98	1.70
2400	13.50	18.75	12.23	22.72	1.12	0.77	37.90	23.17	1.70
2600	13.18	18.54	11.89	22.32	1.11	0.79	40.00	23.65	1.75
2800	12.88	18.32	11.58	22.28	1.11	0.80	40.33	23.59	1.87
3000	12.60	18.07	11.39	22.13	1.11	0.81	41.15	23.77	1.74
3200	12.33	17.81	11.38	21.45	1.11	0.81	39.57	23.46	1.85
3400	12.06	17.55	11.23	20.98	1.10	0.81	40.83	23.70	1.81
3600	11.81	17.29	11.15	20.35	1.10	0.81	41.31	23.79	1.91
3800	11.55	17.03	11.01	19.76	1.09	0.82	42.45	24.00	1.98
4000	11.30	16.78	11.02	18.87	1.09	0.81	42.05	23.69	1.89
4200	11.07	16.49	11.10	17.84	1.08	0.81	41.57	23.68	2.01
4400	10.87	16.20	11.20	17.00	1.07	0.80	41.78	23.74	1.99
4600	10.68	15.92	11.39	16.62	1.07	0.78	42.66	23.81	2.02
4800	10.54	15.56	11.69	16.36	1.06	0.77	42.87	23.72	2.04
5000	10.38	15.26	11.68	17.13	1.05	0.76	44.38	24.35	2.11
5200	10.22	14.96	11.35	18.17	1.04	0.76	43.77	23.78	2.13
5400	10.04	14.68	11.31	18.06	1.04	0.75	42.49	23.06	2.20
5600	9.89	14.40	11.57	17.44	1.03	0.74	43.03	23.39	2.26
5800	9.72	14.14	11.24	17.75	1.02	0.74	43.00	23.67	2.34
6000	9.57	13.86	10.83	17.47	1.01	0.73	44.03	23.65	2.36
6200	9.38	13.64	10.37	17.13	1.00	0.73	43.12	23.23	2.43
6400	9.20	13.38	10.14	16.32	0.99	0.72	42.03	22.92	2.50
6600	9.04	13.15	9.63	15.64	0.98	0.72	41.33	23.04	2.58
6800	8.84	12.96	9.04	14.63	0.97	0.72	41.80	23.07	2.62
7000	8.62	12.78	8.36	13.75	0.96	0.73	41.80	22.86	2.78



## 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 = 5.00V, Id = 148.60mA @ 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)
20	19.41	23.78	7.85	10.27	0.93	0.69	38.10	21.62	2.18
100	17.11	21.19	16.64	20.24	1.08	0.64	42.69	22.47	2.16
200	16.84	21.05	18.87	24.13	1.10	0.64	48.37	22.55	2.23
300	16.73	21.01	18.87	25.39	1.10	0.64	48.35	22.63	2.28
400	16.63	20.98	18.33	25.56	1.11	0.65	50.56	22.48	2.20
500	16.53	20.94	17.64	25.41	1.11	0.66	45.29	22.71	2.29
600	16.42	20.89	16.96	25.06	1.11	0.67	47.39	22.60	2.32
700	16.30	20.84	16.22	24.84	1.11	0.68	45.93	22.61	2.29
800	16.16	20.78	15.56	24.40	1.11	0.69	45.75	22.70	2.33
900	16.02	20.71	14.96	23.99	1.11	0.70	45.36	22.48	2.37
1000	15.87	20.63	14.38	23.56	1.11	0.71	43.49	22.77	2.39
1200	15.54	20.46	13.43	22.50	1.10	0.74	42.94	22.61	2.39
1400	15.19	20.27	12.65	21.59	1.10	0.76	43.32	22.59	2.50
1600	14.84	20.05	12.00	20.82	1.10	0.78	42.54	22.71	2.56
1800	14.47	19.82	11.48	20.21	1.10	0.80	41.67	22.84	2.56
2000	14.10	19.58	11.06	19.66	1.10	0.82	40.95	22.82	2.66
2200	13.72	19.35	10.69	19.14	1.09	0.83	40.50	22.51	2.61
2400	13.35	19.09	10.38	18.68	1.09	0.85	42.07	22.74	2.67
2600	12.99	18.84	10.13	18.20	1.09	0.86	41.40	23.21	2.81
2800	12.64	18.57	9.93	17.87	1.09	0.87	41.79	23.16	2.92
3000	12.31	18.30	9.77	17.49	1.08	0.88	40.61	23.24	2.85
3200	11.99	18.02	9.69	17.10	1.08	0.88	41.27	22.98	2.97
3400	11.68	17.75	9.63	16.71	1.08	0.89	41.04	23.18	2.93
3600	11.38	17.45	9.64	16.31	1.08	0.89	40.85	23.26	3.05
3800	11.11	17.16	9.64	16.07	1.07	0.88	40.67	23.38	3.13
4000	10.86	16.85	9.70	15.88	1.07	0.88	40.63	23.12	3.12
4200	10.62	16.54	9.79	15.74	1.07	0.87	40.71	23.04	3.24
4400	10.40	16.21	9.92	15.43	1.06	0.86	40.51	23.00	3.18
4600	10.17	15.93	10.10	15.27	1.06	0.85	40.94	23.07	3.29
4800	9.99	15.59	10.21	15.18	1.05	0.84	40.33	22.85	3.34
5000	9.81	15.27	10.36	15.23	1.04	0.83	40.10	23.29	3.39
5200	9.63	14.95	10.55	15.26	1.04	0.82	39.71	22.82	3.40
5400	9.46	14.64	10.64	15.19	1.03	0.81	39.23	22.28	3.51
5600	9.29	14.35	10.57	15.22	1.02	0.80	40.03	22.68	3.65
5800	9.12	14.07	10.41	15.32	1.01	0.80	40.33	22.97	3.68
6000	8.95	13.79	10.12	15.20	1.00	0.79	39.41	22.75	3.76
6200	8.78	13.52	9.66	14.93	0.99	0.79	38.70	22.42	3.82
6400	8.56	13.30	9.09	14.50	0.98	0.79	39.17	22.36	3.93
6600	8.35	13.09	8.40	13.88	0.97	0.80	39.94	22.66	4.08
6800	8.10	12.93	7.80	13.07	0.96	0.81	38.84	22.48	4.19
7000	7.83	12.77	7.11	12.09	0.94	0.81	38.30	22.24	4.37

## 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 = 4.75V, Id = 135.57mA @ 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)
20	19.40	23.77	7.69	10.22	0.92	0.69	37.46	21.10	2.09
100	17.08	21.14	16.45	20.11	1.07	0.64	42.40	21.94	2.13
200	16.81	21.00	18.73	23.88	1.10	0.64	46.31	22.02	2.17
300	16.69	20.96	18.72	25.07	1.10	0.64	47.84	22.09	2.25
400	16.60	20.93	18.21	25.22	1.11	0.65	46.87	21.96	2.16
500	16.49	20.88	17.54	25.05	1.11	0.66	43.73	22.18	2.30
600	16.38	20.84	16.87	24.70	1.11	0.67	44.03	22.08	2.27
700	16.26	20.78	16.13	24.46	1.11	0.68	43.46	22.10	2.26
800	16.12	20.72	15.48	24.02	1.11	0.69	43.13	22.18	2.31
900	15.98	20.65	14.91	23.60	1.10	0.70	42.45	21.97	2.34
1000	15.83	20.57	14.33	23.19	1.10	0.71	41.66	22.24	2.40
1200	15.50	20.40	13.37	22.16	1.10	0.74	40.82	22.09	2.37
1400	15.15	20.20	12.61	21.28	1.10	0.76	40.90	22.07	2.46
1600	14.79	19.98	11.97	20.54	1.09	0.78	40.46	22.18	2.50
1800	14.42	19.75	11.45	19.96	1.09	0.80	40.31	22.30	2.51
2000	14.05	19.51	11.03	19.43	1.09	0.81	39.43	22.27	2.58
2200	13.67	19.27	10.68	18.94	1.09	0.83	38.63	21.97	2.61
2400	13.31	19.02	10.37	18.51	1.09	0.84	39.94	22.20	2.67
2600	12.94	18.76	10.12	18.06	1.09	0.86	40.08	22.65	2.76
2800	12.60	18.50	9.93	17.77	1.08	0.87	40.17	22.59	2.86
3000	12.26	18.23	9.77	17.41	1.08	0.88	39.15	22.69	2.83
3200	11.94	17.95	9.69	17.06	1.08	0.88	39.36	22.44	2.93
3400	11.63	17.67	9.63	16.71	1.08	0.88	39.51	22.63	2.84
3600	11.34	17.38	9.64	16.33	1.07	0.88	39.46	22.73	2.99
3800	11.07	17.09	9.65	16.11	1.07	0.88	39.42	22.84	3.07
4000	10.82	16.78	9.71	15.93	1.07	0.88	39.06	22.61	3.05
4200	10.58	16.47	9.80	15.82	1.06	0.87	38.97	22.53	3.17
4400	10.36	16.15	9.93	15.52	1.06	0.86	38.85	22.49	3.16
4600	10.13	15.87	10.12	15.36	1.06	0.85	39.39	22.57	3.24
4800	9.95	15.53	10.23	15.27	1.05	0.84	38.69	22.35	3.26
5000	9.77	15.21	10.39	15.31	1.04	0.83	38.99	22.79	3.35
5200	9.60	14.89	10.57	15.33	1.04	0.82	38.37	22.32	3.29
5400	9.42	14.58	10.68	15.24	1.03	0.81	37.65	21.79	3.52
5600	9.25	14.30	10.62	15.23	1.02	0.80	38.59	22.19	3.59
5800	9.08	14.02	10.45	15.32	1.01	0.79	38.99	22.48	3.54
6000	8.92	13.74	10.17	15.15	1.01	0.79	38.13	22.27	3.66
6200	8.74	13.47	9.72	14.86	0.99	0.78	37.31	21.93	3.74
6400	8.53	13.25	9.14	14.39	0.98	0.79	37.66	21.87	3.84
6600	8.31	13.05	8.45	13.74	0.97	0.79	38.46	22.18	3.97
6800	8.05	12.89	7.85	12.92	0.96	0.80	37.51	21.99	4.10
7000	7.79	12.73	7.14	11.93	0.95	0.80	36.99	21.75	4.23



## 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 = 5.25V, Id = 161.18mA @ 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)
20	19.41	23.77	8.01	10.25	0.93	0.68	37.75	22.05	2.35
100	17.13	21.21	16.84	20.35	1.08	0.64	42.80	22.93	2.29
200	16.87	21.07	19.11	24.46	1.10	0.64	47.52	23.01	2.33
300	16.76	21.04	19.08	25.89	1.11	0.64	46.63	23.10	2.44
400	16.66	21.01	18.52	26.16	1.11	0.65	47.44	22.94	2.28
500	16.56	20.97	17.80	26.07	1.11	0.66	45.61	23.17	2.44
600	16.45	20.93	17.12	25.78	1.11	0.67	49.12	23.05	2.42
700	16.33	20.88	16.36	25.59	1.11	0.68	48.64	23.05	2.43
800	16.20	20.82	15.69	25.15	1.11	0.69	47.79	23.15	2.46
900	16.06	20.76	15.10	24.73	1.11	0.70	50.48	22.92	2.49
1000	15.91	20.69	14.49	24.28	1.11	0.71	44.63	23.22	2.57
1200	15.58	20.53	13.52	23.14	1.11	0.74	46.02	23.04	2.55
1400	15.24	20.34	12.73	22.16	1.11	0.76	46.30	23.02	2.63
1600	14.89	20.13	12.07	21.33	1.10	0.78	44.30	23.15	2.70
1800	14.52	19.91	11.53	20.65	1.10	0.80	42.75	23.29	2.69
2000	14.15	19.69	11.09	20.03	1.10	0.82	42.22	23.27	2.76
2200	13.77	19.45	10.72	19.46	1.10	0.83	42.39	22.94	2.75
2400	13.42	19.21	10.40	18.93	1.10	0.85	44.02	23.18	2.85
2600	13.05	18.96	10.14	18.39	1.09	0.86	42.22	23.67	2.93
2800	12.70	18.70	9.93	17.99	1.09	0.87	42.33	23.62	3.03
3000	12.37	18.43	9.77	17.55	1.09	0.88	41.27	23.70	3.01
3200	12.05	18.16	9.67	17.10	1.09	0.89	42.43	23.43	3.16
3400	11.74	17.88	9.60	16.66	1.08	0.89	41.84	23.62	3.00
3600	11.45	17.59	9.59	16.21	1.08	0.89	41.80	23.70	3.19
3800	11.17	17.30	9.58	15.93	1.08	0.89	41.27	23.81	3.30
4000	10.92	16.99	9.63	15.70	1.07	0.88	41.59	23.54	3.22
4200	10.68	16.68	9.71	15.52	1.07	0.87	41.72	23.45	3.35
4400	10.46	16.35	9.84	15.19	1.06	0.86	41.54	23.40	3.37
4600	10.23	16.07	10.01	15.01	1.06	0.86	41.54	23.48	3.44
4800	10.05	15.72	10.11	14.92	1.05	0.85	41.26	23.25	3.47
5000	9.87	15.40	10.26	14.96	1.04	0.83	40.71	23.70	3.55
5200	9.69	15.08	10.44	14.99	1.04	0.82	40.65	23.21	3.59
5400	9.53	14.76	10.52	14.95	1.03	0.81	40.56	22.67	3.68
5600	9.35	14.47	10.46	15.00	1.02	0.81	40.92	23.09	3.79
5800	9.19	14.18	10.30	15.17	1.01	0.80	40.95	23.38	3.85
6000	9.02	13.88	10.02	15.11	1.00	0.80	40.19	23.15	3.89
6200	8.85	13.61	9.57	14.95	0.99	0.80	39.63	22.80	4.01
6400	8.64	13.38	9.00	14.61	0.98	0.80	40.12	22.76	4.13
6600	8.43	13.16	8.32	14.06	0.96	0.81	40.73	23.09	4.28
6800	8.17	12.99	7.71	13.31	0.95	0.81	39.71	22.88	4.41
7000	7.91	12.82	7.02	12.34	0.94	0.82	39.32	22.64	4.56

# Monolithic Amplifier

# LHA-1H+

## 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 = 5.00V, Id = 146.66mA @ Temperature = +105°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)
20	19.27	23.75	8.05	10.34	0.94	0.69	36.49	21.53	2.42
100	17.12	21.28	16.66	20.65	1.08	0.64	41.41	22.34	2.36
200	16.88	21.15	18.61	24.82	1.10	0.64	42.84	22.41	2.39
300	16.76	21.11	18.46	25.99	1.11	0.65	42.54	22.48	2.41
400	16.66	21.08	17.79	25.86	1.11	0.66	42.86	22.34	2.37
500	16.56	21.04	17.11	25.42	1.11	0.67	42.05	22.56	2.47
600	16.44	20.99	16.45	24.89	1.11	0.68	42.91	22.45	2.47
700	16.31	20.93	15.71	24.46	1.11	0.69	42.83	22.46	2.46
800	16.17	20.87	15.07	23.84	1.11	0.70	42.33	22.55	2.53
900	16.02	20.80	14.51	23.26	1.11	0.71	42.48	22.34	2.54
1000	15.86	20.72	13.95	22.71	1.11	0.72	41.48	22.62	2.59
1200	15.53	20.54	13.04	21.57	1.10	0.75	41.26	22.46	2.60
1400	15.17	20.34	12.31	20.62	1.10	0.77	41.61	22.46	2.69
1600	14.81	20.11	11.71	19.88	1.10	0.79	40.79	22.58	2.73
1800	14.43	19.87	11.23	19.29	1.09	0.81	40.14	22.72	2.76
2000	14.05	19.63	10.82	18.81	1.09	0.83	39.65	22.68	2.85
2200	13.67	19.38	10.49	18.38	1.09	0.84	39.35	22.37	2.86
2400	13.30	19.12	10.19	17.99	1.09	0.86	40.36	22.62	2.93
2600	12.93	18.86	9.94	17.57	1.09	0.87	40.06	23.05	3.03
2800	12.58	18.59	9.75	17.29	1.08	0.88	40.31	23.01	3.12
3000	12.24	18.32	9.60	16.96	1.08	0.89	39.17	23.06	3.06
3200	11.91	18.04	9.50	16.64	1.08	0.89	39.80	22.82	3.15
3400	11.60	17.76	9.43	16.32	1.08	0.90	39.69	22.98	3.08
3600	11.30	17.47	9.42	15.98	1.07	0.90	39.60	23.05	3.25
3800	11.02	17.18	9.42	15.77	1.07	0.90	39.35	23.12	3.35
4000	10.76	16.88	9.46	15.61	1.07	0.89	39.33	22.90	3.27
4200	10.51	16.57	9.55	15.47	1.06	0.88	39.42	22.81	3.41
4400	10.29	16.25	9.66	15.18	1.06	0.88	39.20	22.75	3.37
4600	10.06	15.96	9.82	15.00	1.06	0.87	39.62	22.85	3.48
4800	9.87	15.63	9.95	14.89	1.05	0.86	38.98	22.62	3.50
5000	9.68	15.31	10.13	14.90	1.04	0.85	38.91	22.97	3.62
5200	9.51	14.98	10.31	14.86	1.04	0.83	38.53	22.54	3.57
5400	9.34	14.67	10.42	14.77	1.03	0.82	38.20	22.09	3.74
5600	9.17	14.38	10.39	14.80	1.02	0.82	39.03	22.50	3.80
5800	9.00	14.09	10.30	14.90	1.01	0.81	39.12	22.76	3.85
6000	8.84	13.79	10.02	14.80	1.00	0.80	38.24	22.49	3.92
6200	8.66	13.52	9.61	14.62	0.99	0.80	37.69	22.19	4.00
6400	8.46	13.29	9.05	14.27	0.98	0.80	38.14	22.21	4.15
6600	8.24	13.08	8.33	13.72	0.96	0.81	38.75	22.53	4.31
6800	7.98	12.92	7.69	12.97	0.96	0.82	37.83	22.27	4.45
7000	7.71	12.76	6.97	12.00	0.94	0.82	37.27	22.04	4.63

# Monolithic Amplifier

# LHA-1H+

## 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 = 4.75V, Id = 134.58mA @ Temperature = +105°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)			(dBm)	(dBm)	(dB)
20	19.29	23.76	7.76	10.31	0.94	0.70	36.70	21.01	2.18
100	17.10	21.24	16.36	20.54	1.08	0.64	41.23	21.81	2.21
200	16.85	21.10	18.45	24.51	1.10	0.64	42.61	21.88	2.22
300	16.73	21.07	18.28	25.59	1.11	0.65	42.64	21.95	2.25
400	16.63	21.03	17.61	25.48	1.11	0.66	43.02	21.81	2.22
500	16.53	20.99	16.98	25.03	1.11	0.67	41.32	22.03	2.35
600	16.41	20.94	16.31	24.50	1.11	0.68	41.99	21.93	2.33
700	16.28	20.88	15.59	24.06	1.11	0.69	41.60	21.94	2.30
800	16.14	20.81	14.97	23.45	1.11	0.70	41.23	22.02	2.39
900	15.99	20.74	14.41	22.88	1.10	0.71	41.14	21.82	2.39
1000	15.83	20.66	13.88	22.35	1.10	0.72	40.47	22.09	2.48
1200	15.49	20.47	12.98	21.26	1.10	0.75	39.82	21.95	2.43
1400	15.13	20.26	12.26	20.35	1.10	0.77	40.02	21.94	2.53
1600	14.76	20.03	11.67	19.64	1.09	0.79	39.49	22.05	2.58
1800	14.39	19.79	11.20	19.07	1.09	0.81	39.11	22.18	2.64
2000	14.01	19.54	10.80	18.62	1.09	0.82	38.44	22.14	2.68
2200	13.62	19.29	10.47	18.21	1.08	0.84	38.00	21.85	2.67
2400	13.26	19.02	10.18	17.84	1.08	0.85	38.87	22.09	2.77
2600	12.89	18.76	9.93	17.45	1.08	0.87	39.11	22.50	2.86
2800	12.54	18.49	9.74	17.19	1.08	0.88	39.13	22.47	2.93
3000	12.20	18.22	9.59	16.89	1.07	0.88	38.29	22.52	2.88
3200	11.87	17.94	9.51	16.61	1.07	0.89	38.47	22.29	3.01
3400	11.55	17.66	9.44	16.32	1.07	0.89	38.62	22.46	2.95
3600	11.25	17.37	9.43	16.01	1.07	0.89	38.63	22.53	3.05
3800	10.97	17.08	9.44	15.83	1.07	0.89	38.44	22.61	3.17
4000	10.72	16.77	9.49	15.68	1.06	0.89	38.15	22.40	3.13
4200	10.47	16.47	9.57	15.56	1.06	0.88	38.14	22.32	3.26
4400	10.25	16.14	9.69	15.30	1.05	0.87	37.94	22.27	3.19
4600	10.02	15.86	9.86	15.13	1.05	0.86	38.59	22.37	3.29
4800	9.83	15.53	9.99	15.02	1.04	0.85	37.93	22.15	3.36
5000	9.64	15.21	10.18	15.02	1.04	0.84	38.01	22.49	3.42
5200	9.47	14.89	10.36	14.97	1.03	0.83	37.50	22.07	3.41
5400	9.30	14.57	10.47	14.86	1.03	0.82	36.97	21.62	3.55
5600	9.13	14.29	10.45	14.86	1.02	0.81	37.83	22.03	3.59
5800	8.96	14.00	10.36	14.93	1.01	0.80	38.10	22.29	3.68
6000	8.80	13.71	10.08	14.77	1.00	0.80	37.26	22.03	3.76
6200	8.62	13.44	9.67	14.55	0.99	0.79	36.58	21.73	3.83
6400	8.42	13.22	9.12	14.13	0.98	0.79	37.04	21.75	3.92
6600	8.19	13.01	8.41	13.54	0.97	0.80	37.67	22.06	4.11
6800	7.93	12.86	7.75	12.77	0.96	0.81	36.79	21.81	4.20
7000	7.67	12.70	7.03	11.79	0.94	0.81	36.21	21.57	4.35



# Monolithic Amplifier

# LHA-1H+

## 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 = 5.25V, Id = 158.65mA @ Temperature = +105°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)			(dBm)	(dBm)	(dB)
20	19.26	23.75	8.14	10.33	0.95	0.68	36.05	21.96	2.52
100	17.13	21.29	16.85	20.74	1.09	0.64	41.08	22.78	2.44
200	16.88	21.17	18.90	25.10	1.11	0.64	42.23	22.85	2.46
300	16.77	21.13	18.71	26.40	1.11	0.65	41.79	22.93	2.53
400	16.67	21.11	18.01	26.33	1.11	0.66	41.80	22.78	2.44
500	16.57	21.07	17.33	25.90	1.11	0.67	41.52	23.00	2.61
600	16.45	21.02	16.63	25.42	1.11	0.68	42.57	22.87	2.51
700	16.33	20.97	15.88	24.98	1.11	0.69	42.58	22.88	2.53
800	16.19	20.91	15.23	24.35	1.11	0.70	42.17	22.98	2.62
900	16.04	20.84	14.65	23.75	1.11	0.71	42.52	22.75	2.59
1000	15.89	20.77	14.08	23.17	1.11	0.72	42.08	23.04	2.63
1200	15.55	20.60	13.15	21.99	1.11	0.75	41.80	22.88	2.67
1400	15.20	20.41	12.41	21.00	1.11	0.77	42.39	22.87	2.77
1600	14.84	20.19	11.79	20.22	1.10	0.79	41.19	23.00	2.84
1800	14.46	19.96	11.30	19.58	1.10	0.81	40.23	23.14	2.83
2000	14.09	19.73	10.88	19.07	1.10	0.83	39.78	23.11	2.92
2200	13.71	19.49	10.53	18.60	1.10	0.84	40.05	22.79	2.90
2400	13.35	19.23	10.22	18.17	1.09	0.86	40.88	23.04	2.99
2600	12.98	18.97	9.96	17.70	1.09	0.87	40.05	23.48	3.09
2800	12.63	18.71	9.76	17.37	1.09	0.88	40.36	23.44	3.16
3000	12.29	18.44	9.60	17.00	1.09	0.89	39.54	23.48	3.12
3200	11.96	18.16	9.49	16.64	1.08	0.90	40.24	23.24	3.25
3400	11.64	17.89	9.41	16.28	1.08	0.90	40.03	23.40	3.16
3600	11.34	17.60	9.39	15.90	1.08	0.90	39.83	23.45	3.34
3800	11.06	17.31	9.38	15.65	1.07	0.90	39.68	23.51	3.42
4000	10.81	17.00	9.42	15.44	1.07	0.90	39.77	23.28	3.37
4200	10.56	16.70	9.49	15.27	1.07	0.89	39.85	23.18	3.46
4400	10.34	16.37	9.60	14.97	1.06	0.88	39.70	23.13	3.46
4600	10.11	16.09	9.75	14.79	1.06	0.87	39.87	23.22	3.58
4800	9.92	15.74	9.86	14.67	1.05	0.86	39.37	23.00	3.60
5000	9.73	15.43	10.05	14.66	1.04	0.85	39.11	23.34	3.64
5200	9.56	15.10	10.21	14.62	1.03	0.84	38.99	22.92	3.67
5400	9.40	14.77	10.31	14.56	1.02	0.83	38.86	22.46	3.81
5600	9.22	14.48	10.29	14.61	1.02	0.82	39.40	22.88	3.89
5800	9.06	14.18	10.20	14.74	1.01	0.81	39.28	23.14	3.94
6000	8.90	13.88	9.91	14.69	1.00	0.81	38.70	22.85	4.02
6200	8.73	13.59	9.51	14.59	0.98	0.81	38.27	22.55	4.10
6400	8.52	13.36	8.97	14.33	0.97	0.81	38.71	22.59	4.22
6600	8.30	13.14	8.27	13.86	0.96	0.82	39.05	22.91	4.39
6800	8.05	12.97	7.61	13.17	0.95	0.83	38.30	22.63	4.54
7000	7.78	12.80	6.90	12.22	0.93	0.84	37.90	22.40	4.73



# Monolithic Amplifier

# LHA-1H+

## 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 = 4.00V, Id = 85.81mA @ 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)			(dBm)	(dBm)	(dB)
20	19.27	23.63	6.80	9.59	0.88	0.72	35.06	18.92	1.45
100	16.55	20.56	15.66	18.38	1.06	0.64	36.11	19.63	1.55
200	16.19	20.38	18.69	21.77	1.09	0.64	37.04	19.72	1.63
300	16.07	20.33	19.22	22.76	1.10	0.64	37.36	19.80	1.59
400	15.97	20.29	18.87	22.93	1.10	0.65	38.02	19.72	1.59
500	15.88	20.25	18.29	22.84	1.10	0.65	36.28	19.89	1.62
600	15.77	20.20	17.59	22.52	1.10	0.66	36.19	19.84	1.69
700	15.66	20.15	16.90	22.29	1.10	0.67	35.79	19.85	1.64
800	15.54	20.09	16.20	21.97	1.10	0.68	35.64	19.90	1.71
900	15.41	20.02	15.56	21.64	1.10	0.69	35.37	19.74	1.72
1000	15.27	19.95	14.96	21.29	1.10	0.70	34.60	19.91	1.78
1200	14.97	19.79	13.93	20.60	1.10	0.72	34.19	19.79	1.78
1400	14.64	19.61	13.08	20.02	1.10	0.74	34.33	19.77	1.82
1600	14.30	19.41	12.38	19.51	1.09	0.76	34.09	19.82	1.92
1800	13.95	19.20	11.81	19.07	1.09	0.78	33.96	19.90	1.92
2000	13.60	18.98	11.36	18.69	1.09	0.80	33.23	19.82	1.96
2200	13.25	18.75	11.02	18.34	1.09	0.81	32.65	19.61	1.96
2400	12.91	18.51	10.71	18.02	1.09	0.83	33.36	19.82	2.00
2600	12.58	18.25	10.46	17.68	1.08	0.84	33.67	20.10	2.08
2800	12.25	18.00	10.28	17.47	1.08	0.85	33.72	20.10	2.12
3000	11.94	17.74	10.13	17.23	1.08	0.86	33.07	20.15	2.03
3200	11.63	17.48	10.04	17.05	1.08	0.86	33.12	20.03	2.11
3400	11.34	17.21	9.96	16.89	1.08	0.87	33.37	20.16	2.03
3600	11.07	16.93	9.95	16.67	1.07	0.87	33.45	20.27	2.17
3800	10.81	16.65	10.01	16.51	1.07	0.86	33.46	20.36	2.26
4000	10.57	16.36	10.07	16.33	1.07	0.86	33.11	20.25	2.18
4200	10.35	16.06	10.16	16.14	1.06	0.85	33.04	20.22	2.29
4400	10.15	15.75	10.30	15.92	1.06	0.84	32.96	20.22	2.25
4600	9.95	15.47	10.49	15.84	1.05	0.83	33.44	20.32	2.31
4800	9.78	15.14	10.64	15.74	1.05	0.82	33.05	20.18	2.29
5000	9.60	14.85	10.85	15.77	1.04	0.81	33.48	20.52	2.35
5200	9.44	14.55	10.93	15.71	1.04	0.79	32.94	20.20	2.30
5400	9.28	14.25	10.95	15.65	1.03	0.78	32.21	19.82	2.43
5600	9.11	13.98	10.86	15.63	1.03	0.78	32.98	20.12	2.51
5800	8.93	13.73	10.72	15.50	1.02	0.77	33.37	20.37	2.49
6000	8.77	13.46	10.37	15.03	1.01	0.76	32.89	20.23	2.56
6200	8.58	13.23	9.93	14.50	1.00	0.76	32.18	19.97	2.58
6400	8.37	13.03	9.43	13.81	0.99	0.75	32.29	19.90	2.67
6600	8.16	12.84	8.88	13.06	0.98	0.75	32.90	20.13	2.80
6800	7.92	12.68	8.23	12.22	0.98	0.75	32.45	20.02	2.91
7000	7.67	12.54	7.59	11.40	0.96	0.75	32.02	19.84	3.03



# Monolithic Amplifier

# LHA-1H+

## 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 = 4.50V, Id = 115.25mA @ 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)			(dBm)	(dBm)	(dB)
20	19.57	23.74	7.08	9.82	0.88	0.70	37.73	20.41	1.52
100	16.82	20.74	16.15	18.34	1.06	0.63	40.78	21.20	1.60
200	16.47	20.57	19.39	21.37	1.09	0.63	45.05	21.29	1.60
300	16.35	20.52	19.97	22.25	1.10	0.63	48.21	21.37	1.69
400	16.26	20.49	19.59	22.51	1.10	0.64	42.93	21.27	1.60
500	16.16	20.46	19.00	22.61	1.10	0.64	43.86	21.48	1.69
600	16.06	20.41	18.25	22.50	1.10	0.65	42.08	21.42	1.69
700	15.95	20.37	17.49	22.51	1.10	0.66	40.85	21.44	1.71
800	15.83	20.31	16.76	22.40	1.11	0.67	41.11	21.50	1.77
900	15.71	20.25	16.09	22.29	1.11	0.68	39.64	21.32	1.74
1000	15.57	20.18	15.45	22.15	1.11	0.69	39.79	21.54	1.81
1200	15.27	20.04	14.39	21.79	1.10	0.71	38.61	21.41	1.83
1400	14.96	19.86	13.49	21.45	1.10	0.73	38.56	21.38	1.89
1600	14.62	19.68	12.76	21.11	1.10	0.75	38.35	21.46	1.94
1800	14.28	19.47	12.17	20.77	1.10	0.77	38.55	21.54	1.94
2000	13.93	19.26	11.71	20.44	1.10	0.79	37.62	21.48	2.01
2200	13.58	19.03	11.34	20.08	1.10	0.80	36.64	21.22	1.96
2400	13.24	18.79	11.02	19.71	1.10	0.82	37.58	21.44	2.04
2600	12.91	18.54	10.75	19.29	1.10	0.83	38.44	21.85	2.10
2800	12.58	18.29	10.56	19.00	1.10	0.84	38.57	21.80	2.18
3000	12.27	18.02	10.39	18.63	1.09	0.85	37.68	21.91	2.12
3200	11.96	17.76	10.29	18.33	1.09	0.85	37.46	21.68	2.16
3400	11.67	17.49	10.19	18.03	1.09	0.86	37.84	21.88	2.13
3600	11.40	17.20	10.17	17.67	1.08	0.86	37.97	21.99	2.19
3800	11.13	16.92	10.21	17.37	1.08	0.85	38.07	22.15	2.30
4000	10.89	16.63	10.27	17.06	1.08	0.85	37.48	21.94	2.29
4200	10.67	16.32	10.34	16.73	1.07	0.84	37.25	21.90	2.31
4400	10.46	16.01	10.49	16.42	1.06	0.83	37.26	21.90	2.26
4600	10.26	15.72	10.65	16.27	1.06	0.82	37.92	21.98	2.35
4800	10.08	15.39	10.80	16.13	1.05	0.81	37.24	21.81	2.38
5000	9.90	15.10	11.00	16.16	1.05	0.80	37.91	22.27	2.42
5200	9.74	14.78	11.09	16.11	1.04	0.79	37.10	21.82	2.42
5400	9.58	14.47	11.11	16.12	1.03	0.78	35.97	21.27	2.58
5600	9.41	14.20	11.02	16.20	1.03	0.77	37.09	21.63	2.64
5800	9.23	13.93	10.86	16.19	1.02	0.76	37.68	21.92	2.66
6000	9.07	13.66	10.52	15.82	1.01	0.76	37.00	21.76	2.73
6200	8.89	13.41	10.07	15.37	1.00	0.75	36.07	21.42	2.75
6400	8.69	13.19	9.55	14.74	0.99	0.75	36.24	21.29	2.84
6600	8.48	12.99	8.98	13.97	0.98	0.75	37.11	21.55	2.94
6800	8.26	12.81	8.33	13.08	0.97	0.75	36.49	21.44	3.03
7000	8.01	12.65	7.66	12.20	0.96	0.76	35.86	21.23	3.14





# Monolithic Amplifier

# LHA-1H+

## 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 = 4.00V, Id = 73.78mA @ 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)			(dBm)	(dBm)	(dB)
20	19.23	23.45	6.50	8.71	0.84	0.69	33.42	18.32	1.17
100	16.12	19.95	15.20	17.02	1.04	0.63	33.43	19.13	1.26
200	15.67	19.72	19.24	20.89	1.09	0.62	34.20	19.26	1.33
300	15.54	19.67	20.47	21.81	1.10	0.62	34.89	19.34	1.34
400	15.45	19.64	20.40	21.92	1.10	0.63	36.78	19.33	1.28
500	15.37	19.62	19.99	21.95	1.10	0.63	34.44	19.43	1.36
600	15.29	19.60	19.27	21.79	1.11	0.64	34.91	19.40	1.41
700	15.20	19.57	18.60	21.94	1.11	0.65	34.87	19.40	1.40
800	15.11	19.53	17.95	22.08	1.11	0.66	34.62	19.44	1.40
900	15.00	19.50	17.20	22.29	1.11	0.66	35.40	19.33	1.39
1000	14.90	19.45	16.58	22.66	1.11	0.67	32.81	19.36	1.47
1200	14.67	19.35	15.45	23.39	1.11	0.69	33.72	19.33	1.41
1400	14.42	19.23	14.54	23.36	1.11	0.71	34.43	19.35	1.51
1600	14.15	19.10	13.69	23.43	1.11	0.73	34.24	19.35	1.59
1800	13.87	18.95	13.06	22.99	1.12	0.75	33.93	19.41	1.53
2000	13.58	18.80	12.58	22.48	1.12	0.76	32.88	19.27	1.59
2200	13.28	18.63	12.23	21.62	1.12	0.78	32.96	19.11	1.55
2400	12.99	18.46	11.86	20.75	1.12	0.80	34.18	19.32	1.61
2600	12.68	18.28	11.50	20.01	1.12	0.81	33.21	19.55	1.67
2800	12.39	18.09	11.16	19.64	1.11	0.82	33.35	19.55	1.69
3000	12.11	17.88	10.94	19.37	1.11	0.83	32.50	19.58	1.59
3200	11.86	17.64	10.90	18.88	1.11	0.84	33.67	19.55	1.76
3400	11.60	17.41	10.74	18.56	1.11	0.84	33.60	19.70	1.65
3600	11.36	17.17	10.66	18.09	1.10	0.84	33.70	19.77	1.72
3800	11.10	16.94	10.52	17.71	1.10	0.85	33.31	19.85	1.81
4000	10.87	16.70	10.50	17.05	1.09	0.85	33.47	19.72	1.81
4200	10.65	16.43	10.56	16.33	1.08	0.84	33.66	19.70	1.84
4400	10.46	16.16	10.64	15.77	1.08	0.83	33.79	19.78	1.82
4600	10.28	15.89	10.80	15.58	1.07	0.82	34.51	19.92	1.87
4800	10.16	15.54	11.09	15.39	1.06	0.80	34.20	19.85	1.85
5000	10.01	15.24	11.12	16.12	1.06	0.79	33.71	20.27	1.89
5200	9.86	14.95	10.84	16.94	1.05	0.80	34.11	19.92	1.88
5400	9.69	14.68	10.83	16.79	1.04	0.79	34.00	19.52	2.02
5600	9.55	14.41	11.10	16.23	1.03	0.78	34.94	19.82	2.04
5800	9.39	14.14	10.82	16.41	1.02	0.77	35.25	20.07	2.00
6000	9.24	13.88	10.43	16.13	1.01	0.77	34.45	20.03	2.08
6200	9.06	13.64	10.03	15.72	1.00	0.77	34.08	19.76	2.14
6400	8.88	13.42	9.84	15.15	0.99	0.76	34.68	19.67	2.19
6600	8.72	13.18	9.35	14.50	0.98	0.76	35.62	19.84	2.28
6800	8.52	12.99	8.81	13.63	0.97	0.75	35.00	19.87	2.35
7000	8.30	12.83	8.16	12.86	0.96	0.76	34.45	19.72	2.49



## 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 = 4.50V, Id = 102.88mA @ 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)			(dBm)	(dBm)	(dB)
20	19.61	23.63	6.71	9.12	0.84	0.69	38.81	20.20	1.34
100	16.45	20.21	15.57	16.75	1.03	0.62	37.95	20.98	1.29
200	16.00	19.99	19.66	19.69	1.08	0.61	38.68	21.10	1.36
300	15.86	19.95	20.74	20.09	1.09	0.61	38.40	21.18	1.32
400	15.77	19.92	20.58	20.10	1.10	0.62	37.37	21.12	1.31
500	15.69	19.89	20.12	20.14	1.10	0.62	39.00	21.30	1.43
600	15.61	19.87	19.41	20.07	1.10	0.63	38.34	21.25	1.42
700	15.52	19.83	18.78	20.30	1.11	0.64	38.01	21.28	1.40
800	15.43	19.79	18.14	20.55	1.11	0.64	38.34	21.34	1.44
900	15.32	19.75	17.41	20.86	1.11	0.65	37.38	21.18	1.44
1000	15.22	19.70	16.85	21.42	1.11	0.66	39.56	21.35	1.54
1200	14.98	19.59	15.75	22.55	1.11	0.68	37.91	21.28	1.44
1400	14.73	19.46	14.85	23.00	1.11	0.70	37.89	21.26	1.51
1600	14.46	19.32	14.00	23.50	1.12	0.72	38.36	21.30	1.57
1800	14.17	19.16	13.36	23.50	1.12	0.73	39.18	21.36	1.58
2000	13.88	18.98	12.87	23.39	1.12	0.75	38.74	21.27	1.63
2200	13.57	18.80	12.52	22.80	1.12	0.76	37.40	21.03	1.56
2400	13.28	18.61	12.17	22.11	1.12	0.78	38.21	21.21	1.64
2600	12.97	18.42	11.81	21.57	1.12	0.79	40.18	21.61	1.70
2800	12.68	18.21	11.50	21.39	1.11	0.81	40.38	21.57	1.82
3000	12.40	17.98	11.29	21.19	1.11	0.81	39.13	21.70	1.63
3200	12.14	17.73	11.27	20.60	1.11	0.82	38.98	21.50	1.76
3400	11.87	17.48	11.11	20.20	1.11	0.82	39.81	21.70	1.64
3600	11.62	17.23	11.04	19.61	1.10	0.82	40.04	21.78	1.79
3800	11.36	16.99	10.89	19.12	1.10	0.83	40.08	21.93	1.90
4000	11.12	16.74	10.89	18.30	1.09	0.83	38.96	21.70	1.81
4200	10.90	16.46	10.96	17.40	1.09	0.82	39.03	21.70	1.90
4400	10.70	16.17	11.05	16.66	1.08	0.81	39.38	21.77	1.87
4600	10.52	15.90	11.23	16.37	1.08	0.80	40.28	21.86	1.90
4800	10.38	15.55	11.53	16.13	1.06	0.78	39.67	21.76	1.92
5000	10.23	15.25	11.55	16.89	1.06	0.77	40.55	22.28	1.96
5200	10.07	14.96	11.22	17.87	1.05	0.77	39.50	21.81	1.90
5400	9.90	14.68	11.20	17.74	1.04	0.77	38.57	21.26	2.00
5600	9.75	14.41	11.47	17.13	1.03	0.75	39.66	21.55	2.08
5800	9.59	14.14	11.15	17.38	1.03	0.75	40.64	21.80	2.11
6000	9.44	13.87	10.76	17.10	1.01	0.75	39.73	21.75	2.14
6200	9.26	13.63	10.31	16.66	1.00	0.74	39.04	21.43	2.21
6400	9.08	13.41	10.08	16.04	1.00	0.74	39.50	21.22	2.26
6600	8.92	13.17	9.59	15.32	0.98	0.73	40.58	21.36	2.41
6800	8.72	12.98	9.02	14.35	0.98	0.73	40.26	21.40	2.45
7000	8.50	12.81	8.34	13.51	0.96	0.74	39.62	21.21	2.54

## 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 = 4.00V, Id = 94.74mA @ 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)			(dBm)	(dBm)	(dB)
20	19.13	23.72	7.30	10.08	0.92	0.71	35.89	19.20	1.82
100	16.79	20.97	15.67	19.78	1.07	0.65	37.54	19.93	1.94
200	16.51	20.82	17.74	23.36	1.10	0.65	38.11	20.01	2.01
300	16.39	20.77	17.77	24.21	1.10	0.66	38.14	20.08	2.01
400	16.29	20.73	17.29	23.97	1.11	0.66	38.55	20.00	1.95
500	16.18	20.67	16.67	23.46	1.11	0.67	37.14	20.19	2.08
600	16.07	20.61	16.07	22.87	1.10	0.68	37.07	20.12	2.07
700	15.93	20.54	15.39	22.40	1.10	0.69	36.73	20.14	2.07
800	15.80	20.47	14.80	21.82	1.10	0.70	36.56	20.20	2.12
900	15.65	20.38	14.27	21.31	1.10	0.71	36.28	20.03	2.18
1000	15.49	20.29	13.72	20.82	1.09	0.72	35.82	20.25	2.22
1200	15.14	20.08	12.84	19.81	1.09	0.75	35.36	20.13	2.18
1400	14.78	19.86	12.12	18.99	1.08	0.77	35.46	20.11	2.28
1600	14.42	19.61	11.52	18.34	1.08	0.79	35.26	20.21	2.31
1800	14.04	19.35	11.05	17.84	1.07	0.80	35.11	20.31	2.30
2000	13.66	19.10	10.67	17.43	1.07	0.82	34.48	20.27	2.41
2200	13.27	18.84	10.35	17.06	1.07	0.84	33.89	20.05	2.37
2400	12.90	18.58	10.08	16.76	1.07	0.85	34.58	20.24	2.46
2600	12.54	18.31	9.86	16.47	1.06	0.86	34.90	20.57	2.56
2800	12.19	18.05	9.69	16.33	1.06	0.87	34.99	20.55	2.64
3000	11.85	17.77	9.56	16.13	1.06	0.88	34.33	20.63	2.59
3200	11.53	17.49	9.51	15.96	1.06	0.88	34.34	20.46	2.67
3400	11.23	17.21	9.48	15.80	1.06	0.89	34.59	20.61	2.64
3600	10.94	16.92	9.51	15.60	1.06	0.88	34.66	20.71	2.73
3800	10.66	16.63	9.55	15.53	1.06	0.88	34.66	20.79	2.84
4000	10.42	16.32	9.63	15.48	1.05	0.88	34.30	20.64	2.80
4200	10.18	16.01	9.73	15.52	1.05	0.87	34.20	20.60	2.89
4400	9.97	15.70	9.90	15.34	1.05	0.86	34.09	20.57	2.91
4600	9.74	15.42	10.10	15.25	1.05	0.85	34.56	20.65	2.95
4800	9.56	15.09	10.24	15.17	1.04	0.84	34.07	20.48	3.00
5000	9.38	14.79	10.41	15.20	1.04	0.83	34.49	20.82	3.06
5200	9.21	14.48	10.60	15.19	1.03	0.81	33.89	20.47	3.02
5400	9.03	14.19	10.70	14.99	1.03	0.80	33.17	20.05	3.16
5600	8.86	13.92	10.63	14.85	1.02	0.79	34.01	20.38	3.22
5800	8.68	13.66	10.48	14.74	1.02	0.78	34.34	20.64	3.22
6000	8.51	13.40	10.18	14.37	1.01	0.78	33.72	20.46	3.27
6200	8.32	13.15	9.72	13.89	1.00	0.77	33.02	20.19	3.32
6400	8.10	12.96	9.14	13.26	0.99	0.77	33.24	20.13	3.47
6600	7.87	12.78	8.46	12.53	0.98	0.77	33.87	20.38	3.60
6800	7.61	12.65	7.87	11.71	0.98	0.77	33.27	20.22	3.68
7000	7.33	12.53	7.18	10.79	0.96	0.78	32.73	20.01	3.84

## 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 = 4.50V, Id = 122.32mA @ 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)
20	19.36	23.76	7.54	10.19	0.92	0.70	37.47	20.53	1.99
100	17.01	21.10	16.26	19.97	1.07	0.64	41.46	21.34	2.08
200	16.73	20.95	18.49	23.60	1.10	0.64	43.92	21.43	2.11
300	16.62	20.91	18.53	24.66	1.10	0.65	43.93	21.49	2.15
400	16.52	20.87	18.01	24.72	1.11	0.65	44.14	21.37	2.11
500	16.42	20.83	17.35	24.48	1.11	0.66	41.99	21.59	2.21
600	16.31	20.77	16.70	24.07	1.11	0.67	41.72	21.51	2.21
700	16.18	20.72	15.99	23.78	1.10	0.68	41.09	21.52	2.20
800	16.04	20.65	15.34	23.31	1.10	0.69	40.87	21.59	2.24
900	15.90	20.57	14.77	22.88	1.10	0.70	40.34	21.40	2.27
1000	15.74	20.50	14.20	22.46	1.10	0.71	39.82	21.66	2.32
1200	15.41	20.31	13.27	21.47	1.10	0.74	39.01	21.52	2.29
1400	15.06	20.11	12.51	20.62	1.09	0.76	38.99	21.50	2.41
1600	14.70	19.88	11.88	19.93	1.09	0.78	38.63	21.61	2.44
1800	14.33	19.64	11.37	19.38	1.09	0.80	38.53	21.72	2.42
2000	13.96	19.39	10.97	18.91	1.08	0.81	37.77	21.68	2.51
2200	13.57	19.15	10.61	18.46	1.08	0.83	37.01	21.41	2.50
2400	13.21	18.89	10.32	18.08	1.08	0.85	37.93	21.63	2.61
2600	12.85	18.63	10.08	17.69	1.08	0.86	38.28	22.04	2.68
2800	12.50	18.37	9.89	17.46	1.08	0.87	38.51	22.00	2.80
3000	12.16	18.09	9.75	17.16	1.07	0.88	37.61	22.09	2.77
3200	11.84	17.82	9.67	16.87	1.07	0.88	37.62	21.86	2.83
3400	11.54	17.53	9.62	16.58	1.07	0.88	37.86	22.04	2.76
3600	11.24	17.24	9.64	16.26	1.07	0.88	37.97	22.14	2.93
3800	10.97	16.95	9.66	16.09	1.07	0.88	37.86	22.26	3.02
4000	10.73	16.64	9.72	15.94	1.06	0.87	37.44	22.04	2.99
4200	10.48	16.33	9.82	15.88	1.06	0.87	37.33	21.98	3.07
4400	10.27	16.01	9.97	15.60	1.05	0.86	37.21	21.94	3.04
4600	10.04	15.73	10.15	15.46	1.05	0.85	37.74	22.02	3.18
4800	9.85	15.39	10.28	15.37	1.05	0.84	37.16	21.81	3.16
5000	9.68	15.08	10.44	15.41	1.04	0.83	37.57	22.23	3.26
5200	9.50	14.77	10.63	15.42	1.04	0.81	36.89	21.79	3.21
5400	9.33	14.46	10.73	15.30	1.03	0.80	36.07	21.28	3.39
5600	9.16	14.18	10.67	15.25	1.02	0.79	37.00	21.66	3.46
5800	8.99	13.91	10.51	15.27	1.02	0.79	37.39	21.95	3.48
6000	8.82	13.63	10.22	15.02	1.01	0.78	36.70	21.75	3.55
6200	8.64	13.37	9.76	14.66	1.00	0.78	35.89	21.42	3.62
6400	8.42	13.16	9.18	14.12	0.99	0.78	36.17	21.36	3.67
6600	8.20	12.97	8.50	13.42	0.97	0.78	36.94	21.65	3.87
6800	7.95	12.82	7.89	12.59	0.97	0.79	36.19	21.47	3.99
7000	7.68	12.67	7.19	11.61	0.95	0.79	35.55	21.24	4.07

# Monolithic Amplifier

# LHA-1H+

## 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 = 4.00V, Id = 95.21mA @ Temperature = +105°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)			(dBm)	(dBm)	(dB)
20	19.05	23.70	7.33	10.18	0.93	0.72	35.45	19.09	1.87
100	16.84	21.08	15.49	20.14	1.08	0.65	37.03	19.80	2.00
200	16.58	20.93	17.35	23.76	1.10	0.66	37.56	19.88	2.08
300	16.46	20.89	17.20	24.42	1.11	0.66	37.51	19.94	2.12
400	16.35	20.84	16.63	23.92	1.11	0.67	37.68	19.84	2.02
500	16.24	20.78	16.07	23.22	1.11	0.68	36.70	20.05	2.13
600	16.12	20.72	15.48	22.52	1.10	0.69	36.58	19.98	2.12
700	15.98	20.64	14.82	21.95	1.10	0.70	36.31	19.99	2.16
800	15.83	20.56	14.25	21.28	1.10	0.71	36.17	20.05	2.20
900	15.68	20.47	13.74	20.69	1.09	0.72	35.94	19.89	2.21
1000	15.51	20.36	13.25	20.16	1.09	0.73	35.49	20.12	2.28
1200	15.15	20.15	12.42	19.14	1.08	0.76	35.10	20.00	2.28
1400	14.78	19.90	11.75	18.32	1.08	0.78	35.16	19.99	2.35
1600	14.41	19.64	11.22	17.71	1.07	0.80	35.04	20.09	2.37
1800	14.02	19.38	10.78	17.23	1.06	0.81	34.88	20.20	2.40
2000	13.63	19.11	10.43	16.87	1.06	0.83	34.24	20.17	2.47
2200	13.23	18.84	10.14	16.55	1.06	0.84	33.74	19.94	2.46
2400	12.87	18.56	9.88	16.28	1.06	0.86	34.43	20.14	2.53
2600	12.49	18.29	9.67	16.02	1.06	0.87	34.68	20.46	2.66
2800	12.14	18.02	9.51	15.88	1.05	0.88	34.77	20.45	2.73
3000	11.79	17.74	9.39	15.71	1.05	0.89	34.13	20.51	2.63
3200	11.46	17.46	9.33	15.57	1.05	0.89	34.18	20.35	2.76
3400	11.15	17.18	9.29	15.44	1.05	0.89	34.39	20.48	2.65
3600	10.85	16.89	9.31	15.28	1.05	0.89	34.46	20.56	2.82
3800	10.58	16.60	9.34	15.24	1.05	0.89	34.41	20.62	2.94
4000	10.32	16.30	9.41	15.21	1.05	0.89	34.10	20.49	2.90
4200	10.08	16.00	9.52	15.24	1.05	0.88	34.00	20.45	2.95
4400	9.86	15.68	9.66	15.07	1.04	0.87	33.90	20.41	3.00
4600	9.63	15.41	9.85	14.98	1.04	0.86	34.35	20.49	3.04
4800	9.44	15.08	10.00	14.89	1.04	0.85	33.85	20.32	3.08
5000	9.26	14.78	10.20	14.90	1.04	0.84	34.19	20.58	3.14
5200	9.09	14.47	10.40	14.85	1.03	0.82	33.65	20.28	3.11
5400	8.91	14.17	10.52	14.64	1.03	0.81	33.06	19.90	3.25
5600	8.74	13.90	10.49	14.54	1.02	0.80	33.84	20.25	3.23
5800	8.56	13.63	10.40	14.44	1.02	0.79	34.09	20.48	3.34
6000	8.40	13.36	10.12	14.11	1.01	0.78	33.45	20.26	3.38
6200	8.21	13.11	9.71	13.69	1.00	0.78	32.85	20.02	3.42
6400	7.99	12.92	9.14	13.09	0.99	0.78	33.12	20.03	3.56
6600	7.76	12.74	8.43	12.39	0.98	0.78	33.70	20.29	3.66
6800	7.49	12.62	7.79	11.59	0.97	0.78	33.06	20.07	3.80
7000	7.21	12.49	7.08	10.66	0.96	0.78	32.53	19.86	3.95



# Monolithic Amplifier

# LHA-1H+

## 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 = 4.50V, Id = 122.20mA @ Temperature = +105°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)
20	19.26	23.76	7.63	10.29	0.93	0.70	36.57	20.45	2.06
100	17.05	21.19	16.16	20.41	1.08	0.64	40.37	21.24	2.13
200	16.79	21.06	18.19	24.19	1.10	0.65	41.63	21.31	2.16
300	16.67	21.02	18.02	25.13	1.11	0.65	41.51	21.37	2.13
400	16.57	20.98	17.40	24.97	1.11	0.66	41.64	21.25	2.14
500	16.46	20.93	16.78	24.48	1.11	0.67	40.21	21.46	2.23
600	16.35	20.88	16.13	23.92	1.11	0.68	40.55	21.37	2.21
700	16.21	20.82	15.43	23.47	1.10	0.69	39.94	21.39	2.25
800	16.07	20.74	14.82	22.85	1.10	0.70	39.82	21.47	2.29
900	15.92	20.66	14.28	22.29	1.10	0.71	39.52	21.27	2.30
1000	15.76	20.58	13.75	21.77	1.10	0.73	38.92	21.53	2.40
1200	15.42	20.38	12.87	20.72	1.09	0.75	38.34	21.40	2.38
1400	15.05	20.17	12.16	19.85	1.09	0.77	38.48	21.39	2.46
1600	14.68	19.93	11.58	19.17	1.08	0.79	38.16	21.50	2.51
1800	14.30	19.68	11.12	18.64	1.08	0.81	37.86	21.61	2.54
2000	13.92	19.42	10.73	18.22	1.08	0.82	37.26	21.58	2.60
2200	13.54	19.17	10.42	17.84	1.08	0.84	36.55	21.30	2.60
2400	13.17	18.90	10.13	17.50	1.07	0.85	37.46	21.53	2.66
2600	12.80	18.63	9.89	17.15	1.07	0.87	37.76	21.93	2.76
2800	12.45	18.36	9.71	16.94	1.07	0.88	37.88	21.88	2.84
3000	12.11	18.08	9.57	16.68	1.07	0.88	37.03	21.96	2.78
3200	11.78	17.80	9.49	16.44	1.07	0.89	37.14	21.74	2.93
3400	11.46	17.52	9.43	16.20	1.07	0.89	37.35	21.90	2.85
3600	11.17	17.23	9.43	15.93	1.06	0.89	37.35	21.98	2.93
3800	10.88	16.94	9.45	15.79	1.06	0.89	37.30	22.06	3.11
4000	10.63	16.63	9.51	15.68	1.06	0.89	36.96	21.87	3.03
4200	10.38	16.33	9.60	15.61	1.06	0.88	36.84	21.80	3.17
4400	10.16	16.01	9.72	15.37	1.05	0.87	36.72	21.75	3.15
4600	9.93	15.73	9.90	15.22	1.05	0.86	37.25	21.85	3.21
4800	9.74	15.39	10.04	15.10	1.04	0.85	36.61	21.64	3.23
5000	9.56	15.08	10.23	15.11	1.04	0.84	36.91	21.97	3.28
5200	9.39	14.76	10.42	15.06	1.03	0.82	36.37	21.57	3.26
5400	9.22	14.45	10.53	14.92	1.03	0.81	35.69	21.12	3.46
5600	9.04	14.17	10.51	14.89	1.02	0.81	36.64	21.52	3.53
5800	8.87	13.89	10.41	14.90	1.02	0.80	36.85	21.78	3.54
6000	8.71	13.60	10.14	14.68	1.00	0.79	36.12	21.53	3.67
6200	8.53	13.34	9.73	14.38	0.99	0.78	35.42	21.24	3.64
6400	8.32	13.13	9.18	13.90	0.99	0.79	35.75	21.25	3.83
6600	8.10	12.93	8.46	13.25	0.97	0.79	36.51	21.56	3.95
6800	7.84	12.78	7.80	12.45	0.97	0.79	35.60	21.31	4.09
7000	7.56	12.63	7.08	11.48	0.95	0.80	35.11	21.09	4.23

