

## Typical Performance Data

Note: The following data was taken on the Mini-Circuits Characterization Test Board MB-225-39C+ (Figure 2)

### Definitions:

Input Return Loss = S11 (dB)

Gain = S21 (dB)

Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS:  $I_{DD} = 28\text{mA}$ ,  $V_{DD} = 3.61\text{V}$  @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		1dB Comp. Output	3dB Comp. Output	Noise Figure	IP3 - Min
					K	B1				
(MHz)	(dB)	(dB)	(dB)	(dB)			(dBm)	(dBm)	(dB)	(dBm)
10	23.18	25.24	37.71	32.83	1.03	0.38	9.64	11.83	2.11	19.87
50	23.26	25.24	37.59	35.66	1.03	0.37	8.70	11.16	2.06	19.36
100	23.24	25.16	34.84	34.20	1.02	0.36	9.07	11.43	2.17	19.81
250	23.17	25.15	29.99	28.27	1.02	0.37	9.43	11.67	2.08	21.34
500	22.96	25.07	25.20	24.03	1.02	0.39	9.00	11.31	2.05	19.56
750	22.71	24.94	22.31	21.40	1.02	0.41	8.65	10.93	2.06	19.63
1000	22.44	24.80	20.36	19.83	1.02	0.42	8.61	10.73	2.15	19.83
1250	22.17	24.59	18.88	18.76	1.02	0.43	8.29	10.48	2.12	18.67
1500	21.87	24.48	17.71	17.70	1.02	0.46	8.36	10.48	2.08	19.53
1750	21.55	24.28	16.68	16.85	1.02	0.48	8.52	10.55	2.16	19.18
2000	21.21	24.12	15.85	16.19	1.02	0.50	8.95	10.89	2.11	19.30
2250	20.86	23.88	15.06	15.47	1.01	0.51	8.12	10.03	2.17	18.96
2500	20.49	23.70	14.36	14.96	1.02	0.53	8.63	10.38	2.15	19.29
2750	20.11	23.53	13.76	14.50	1.02	0.55	8.75	10.57	2.20	19.89
3000	19.72	23.29	13.16	14.05	1.02	0.57	8.78	10.58	2.20	19.11
3250	19.33	23.15	12.64	13.73	1.03	0.59	8.76	10.52	2.25	19.73
3500	18.92	22.98	12.23	13.45	1.03	0.62	9.07	10.89	2.29	20.26
3750	18.52	22.80	11.74	13.24	1.04	0.64	9.39	11.27	2.32	20.89
4000	18.13	22.59	11.34	13.08	1.04	0.65	9.55	11.4	2.35	19.84
4250	17.73	22.44	10.93	12.85	1.05	0.68	9.93	11.73	2.34	20.64
4500	17.32	22.27	10.57	12.76	1.06	0.70	9.83	11.65	2.42	20.67
4750	16.93	22.12	10.17	12.72	1.07	0.72	9.50	11.31	2.45	20.47
5000	16.53	21.99	9.81	12.52	1.08	0.74	10.16	11.91	2.53	21.31
5250	16.13	21.86	9.40	12.44	1.09	0.76	9.63	11.47	2.62	20.09
5500	15.73	21.74	9.09	12.41	1.10	0.78	9.61	11.46	2.62	20.31
5750	15.35	21.63	8.72	12.32	1.11	0.80	9.53	11.33	2.64	20.39
6000	14.97	21.49	8.39	12.28	1.12	0.82	9.53	11.4	2.79	20.23
6250	14.58	21.38	8.09	12.25	1.14	0.84	8.95	10.94	2.72	19.68
6500	14.19	21.27	7.79	12.18	1.15	0.86	9.34	11.21	2.87	20.10
6750	13.82	21.22	7.50	12.16	1.17	0.88	9.19	11.14	2.91	20.07
7000	13.46	21.14	7.26	12.09	1.18	0.90	8.94	10.91	3.04	20.01
7250	13.10	21.05	6.99	12.01	1.19	0.92	8.99	11	3.08	18.93
7500	12.74	20.98	6.72	11.92	1.20	0.94	8.50	10.57	3.12	18.56
7750	12.37	20.94	6.48	11.77	1.22	0.96	8.37	10.48	3.25	18.33
8000	12.02	20.89	6.26	11.73	1.23	0.98	8.09	10.29	3.35	18.00

## Typical Performance Data

Note: The following data was taken on the Mini-Circuits Characterization Test Board MB-225-39C+ (Figure 2)

### Definitions:

Input Return Loss = S11 (dB)

Gain = S21 (dB)

Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: I<sub>DD</sub> = 35mA, V<sub>DD</sub> = 3.64V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		1dB Comp. Output	3dB Comp. Output	Noise Figure	IP3 - Min
					K	B1				
(MHz)	(dB)	(dB)	(dB)	(dB)			(dBm)	(dBm)	(dB)	(dBm)
10	23.91	25.91	24.61	21.25	1.02	0.36	12.77	14.18	1.74	23.74
50	23.97	25.98	24.40	21.17	1.02	0.36	11.76	13.62	2.04	23.48
100	23.96	26.00	24.38	21.03	1.03	0.36	12.15	13.88	2.21	23.56
250	23.86	25.86	23.09	19.99	1.02	0.35	12.52	14.05	2.09	25.28
500	23.63	25.72	21.29	18.50	1.02	0.37	12.09	13.72	2.05	23.51
750	23.35	25.65	19.86	17.16	1.02	0.39	11.66	13.40	2.04	23.70
1000	23.05	25.47	18.67	16.26	1.02	0.41	11.63	13.25	2.10	23.79
1250	22.75	25.32	17.80	15.62	1.02	0.42	11.28	13.01	2.16	22.69
1500	22.41	25.14	16.99	14.97	1.02	0.44	11.30	13.01	2.09	23.54
1750	22.06	25.00	16.28	14.38	1.03	0.46	11.43	13.01	2.05	23.13
2000	21.69	24.81	15.69	13.99	1.03	0.48	11.80	13.20	2.17	22.90
2250	21.31	24.56	15.08	13.49	1.03	0.49	11.02	12.59	2.16	22.80
2500	20.92	24.34	14.52	13.17	1.03	0.51	11.43	12.91	2.15	22.72
2750	20.51	24.16	14.02	12.83	1.04	0.53	11.52	12.99	2.20	23.40
3000	20.10	23.93	13.48	12.51	1.04	0.55	11.51	12.98	2.22	22.60
3250	19.70	23.77	13.01	12.26	1.05	0.57	11.42	12.88	2.30	22.90
3500	19.27	23.56	12.64	12.08	1.05	0.59	11.65	13.15	2.35	23.28
3750	18.86	23.36	12.18	11.91	1.06	0.61	11.76	13.23	2.33	23.51
4000	18.46	23.13	11.79	11.80	1.06	0.63	11.79	13.23	2.31	22.33
4250	18.05	22.94	11.39	11.61	1.07	0.64	11.83	13.34	2.37	22.69
4500	17.64	22.76	11.03	11.54	1.08	0.66	11.69	13.34	2.48	22.33
4750	17.25	22.56	10.64	11.50	1.09	0.68	11.37	12.95	2.49	22.50
5000	16.84	22.43	10.25	11.33	1.10	0.70	11.64	13.27	2.56	22.32
5250	16.45	22.25	9.84	11.24	1.10	0.72	11.28	13.01	2.62	21.29
5500	16.05	22.11	9.52	11.22	1.12	0.74	11.09	12.86	2.67	21.42
5750	15.67	21.94	9.14	11.10	1.12	0.75	10.87	12.61	2.75	21.30
6000	15.29	21.82	8.79	11.08	1.14	0.77	10.66	12.54	2.82	21.10
6250	14.91	21.68	8.49	11.03	1.15	0.79	10.35	12.24	2.84	20.74
6500	14.53	21.57	8.15	10.97	1.16	0.81	10.29	12.18	2.94	20.87
6750	14.16	21.42	7.86	10.92	1.17	0.83	10.07	12.03	2.98	20.86
7000	13.80	21.33	7.60	10.84	1.18	0.84	9.81	11.78	3.05	20.65
7250	13.45	21.22	7.31	10.76	1.19	0.86	9.67	11.67	3.19	19.52
7500	13.09	21.13	7.02	10.68	1.20	0.88	9.28	11.33	3.23	19.30
7750	12.72	21.05	6.77	10.53	1.21	0.90	9.10	11.20	3.32	19.03
8000	12.37	20.99	6.54	10.48	1.22	0.91	8.82	11.01	3.43	18.79

## Typical Performance Data

Note: The following data was taken on the Mini-Circuits Characterization Test Board MB-225-39C+ (Figure 2)

### Definitions:

Input Return Loss = S11 (dB)

Gain = S21 (dB)

Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: I<sub>DD</sub> = 42mA, V<sub>DD</sub> = 3.66V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		1dB Comp. Output	3dB Comp. Output	Noise Figure	IP3 - Min
					K	B1				
(MHz)	(dB)	(dB)	(dB)	(dB)			(dBm)		(dB)	(dBm)
10	24.30	26.46	19.88	17.69	1.03	0.37	14.19	15.83	2.22	26.46
50	24.39	26.34	19.61	17.52	1.02	0.33	13.83	15.31	2.07	26.03
100	24.38	26.38	19.71	17.49	1.02	0.34	14.13	15.55	2.16	26.67
250	24.27	26.36	19.12	16.86	1.02	0.35	14.28	15.65	2.07	27.91
500	24.02	26.23	18.30	15.96	1.02	0.36	13.99	15.28	2.02	26.46
750	23.72	26.09	17.57	15.03	1.02	0.38	13.72	14.95	2.01	26.51
1000	23.40	25.91	16.90	14.42	1.02	0.39	13.62	14.81	2.05	26.33
1250	23.08	25.75	16.41	13.98	1.03	0.41	13.30	14.58	2.08	25.43
1500	22.73	25.59	15.92	13.50	1.03	0.43	13.29	14.53	2.02	26.14
1750	22.35	25.40	15.49	13.09	1.03	0.45	13.31	14.49	2.10	25.30
2000	21.97	25.23	15.12	12.79	1.04	0.47	13.48	14.62	2.13	24.86
2250	21.58	24.95	14.65	12.41	1.04	0.48	13.00	14.17	2.13	24.88
2500	21.17	24.80	14.26	12.18	1.04	0.51	13.27	14.45	2.16	24.58
2750	20.75	24.56	13.85	11.90	1.05	0.52	13.21	14.45	2.20	24.99
3000	20.32	24.34	13.41	11.66	1.05	0.54	13.14	14.42	2.17	24.15
3250	19.91	24.12	13.03	11.46	1.06	0.56	13.06	14.31	2.27	24.29
3500	19.48	23.90	12.69	11.31	1.06	0.57	13.14	14.48	2.33	24.37
3750	19.07	23.69	12.29	11.17	1.07	0.59	12.98	14.39	2.34	24.37
4000	18.66	23.45	11.93	11.08	1.07	0.61	12.82	14.32	2.34	23.24
4250	18.25	23.25	11.54	10.90	1.08	0.62	12.75	14.26	2.32	23.24
4500	17.84	23.02	11.21	10.85	1.09	0.64	12.64	14.24	2.43	22.88
4750	17.45	22.87	10.83	10.80	1.10	0.66	12.34	13.89	2.52	23.08
5000	17.04	22.70	10.45	10.65	1.11	0.67	12.22	13.91	2.54	22.59
5250	16.65	22.50	10.07	10.57	1.11	0.69	11.97	13.73	2.57	21.66
5500	16.25	22.33	9.74	10.54	1.12	0.71	11.74	13.50	2.63	21.72
5750	15.87	22.12	9.36	10.44	1.13	0.72	11.46	13.25	2.68	21.72
6000	15.50	22.00	9.01	10.39	1.14	0.74	11.18	13.06	2.74	21.49
6250	15.12	21.84	8.70	10.33	1.15	0.76	10.97	12.88	2.88	21.17
6500	14.74	21.69	8.36	10.25	1.16	0.77	10.75	12.67	2.90	21.09
6750	14.37	21.56	8.07	10.21	1.17	0.79	10.53	12.48	3.04	21.11
7000	14.02	21.46	7.79	10.13	1.18	0.81	10.21	12.20	3.15	20.98
7250	13.67	21.31	7.51	10.03	1.18	0.82	10.03	12.04	3.19	19.83
7500	13.31	21.20	7.21	9.94	1.19	0.84	9.67	11.74	3.24	19.68
7750	12.95	21.11	6.94	9.79	1.20	0.85	9.51	11.58	3.35	19.43
8000	12.60	21.03	6.71	9.74	1.21	0.87	9.29	11.38	3.52	19.09

## Typical Performance Data

Note: The following data was taken on the Mini-Circuits Characterization Test Board MB-225-39C+ (Figure 2)

### Definitions:

Input Return Loss = S11 (dB)

Gain = S21 (dB)

Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: I<sub>DD</sub> = 35mA, V<sub>DD</sub> = 3.43V @Temperature = +105degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		1dB Comp. Output	3dB Comp. Output	Noise Figure	IP3 - Min
					K	B1				
(MHz)	(dB)	(dB)	(dB)	(dB)	K	B1	(dBm)	(dBm)	(dB)	(dBm)
10	23.36	25.40	35.89	27.63	1.03	0.37	12.27	14.10	2.46	23.55
50	23.45	25.57	33.97	27.13	1.03	0.38	11.79	13.61	2.59	23.16
100	23.43	25.38	32.80	26.62	1.02	0.36	12.08	13.83	2.77	24.03
250	23.33	25.39	28.57	24.33	1.03	0.38	12.29	13.93	2.68	25.16
500	23.10	25.29	24.93	21.60	1.03	0.39	11.97	13.57	2.61	23.25
750	22.81	25.14	22.51	19.76	1.02	0.41	11.60	13.26	2.65	23.40
1000	22.51	25.00	20.79	18.47	1.02	0.43	11.49	13.10	2.73	23.41
1250	22.21	24.84	19.44	17.48	1.02	0.45	11.18	12.88	2.73	22.21
1500	21.87	24.64	18.29	16.63	1.02	0.47	11.17	12.84	2.72	22.90
1750	21.50	24.47	17.35	15.86	1.03	0.49	11.26	12.82	2.79	22.39
2000	21.11	24.26	16.48	15.21	1.03	0.51	11.52	12.97	2.81	21.99
2250	20.72	24.09	15.68	14.64	1.03	0.53	10.91	12.49	2.80	22.11
2500	20.30	23.86	14.97	14.23	1.03	0.55	11.28	12.80	2.89	22.04
2750	19.87	23.69	14.34	13.83	1.04	0.58	11.29	12.81	2.88	22.27
3000	19.44	23.44	13.74	13.58	1.04	0.60	11.22	12.79	2.92	21.41
3250	19.01	23.25	13.24	13.35	1.05	0.62	11.15	12.68	3.01	21.71
3500	18.56	23.04	12.79	13.18	1.06	0.64	11.19	12.86	3.02	21.89
3750	18.13	22.85	12.38	13.05	1.07	0.66	11.16	12.80	3.03	22.08
4000	17.70	22.68	11.97	12.93	1.08	0.68	10.99	12.74	3.08	20.74
4250	17.26	22.46	11.57	12.76	1.09	0.70	10.82	12.70	3.13	20.97
4500	16.82	22.30	11.16	12.63	1.10	0.72	10.68	12.64	3.21	20.91
4750	16.40	22.14	10.74	12.50	1.11	0.74	10.32	12.30	3.21	20.64
5000	15.96	22.06	10.31	12.36	1.13	0.76	10.33	12.35	3.32	20.60
5250	15.53	21.88	9.87	12.24	1.14	0.78	10.05	12.10	3.43	19.66
5500	15.10	21.75	9.47	12.18	1.16	0.80	9.78	11.89	3.46	19.65
5750	14.70	21.62	9.08	12.13	1.17	0.82	9.58	11.68	3.53	19.59
6000	14.30	21.51	8.69	12.07	1.18	0.84	9.28	11.46	3.66	19.44
6250	13.89	21.39	8.33	12.01	1.20	0.86	9.04	11.25	3.74	19.03
6500	13.49	21.28	7.99	11.95	1.21	0.88	8.90	11.11	3.88	19.06
6750	13.10	21.21	7.67	11.90	1.23	0.91	8.73	10.94	3.94	19.00
7000	12.71	21.12	7.38	11.90	1.24	0.93	8.37	10.68	4.01	18.86
7250	12.33	21.02	7.11	11.86	1.26	0.94	8.26	10.55	4.15	17.68
7500	11.94	20.97	6.83	11.79	1.28	0.97	7.86	10.22	4.20	17.45
7750	11.55	20.93	6.59	11.75	1.30	0.99	7.71	10.08	4.34	17.18
8000	11.18	20.83	6.38	11.76	1.31	1.00	7.51	9.86	4.54	16.91

## Typical Performance Data

Note: The following data was taken on the Mini-Circuits Characterization Test Board MB-225-39C+ (Figure 2)

### Definitions:

Input Return Loss = S11 (dB)

Gain = S21 (dB)

Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: I<sub>DD</sub> = 35mA, V<sub>DD</sub> = 3.83V @Temperature = -55degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		1dB Comp. Output	3dB Comp. Output	Noise Figure	IP3 - Min
					K	B1				
(MHz)	(dB)	(dB)	(dB)	(dB)			(dBm)	(dBm)	(dB)	(dBm)
10	24.41	26.63	19.79	17.38	1.03	0.37	12.49	14.19234	1.61	24.07
50	24.47	26.43	19.93	17.59	1.02	0.34	11.86	13.6	1.61	23.74
100	24.46	26.45	19.98	17.65	1.02	0.34	12.25	13.94	1.73	24.45
250	24.36	26.40	19.52	17.16	1.02	0.35	12.62	14.18	1.59	25.52
500	24.12	26.31	18.27	15.99	1.02	0.36	12.20	13.84	1.56	24.15
750	23.83	26.20	17.30	15.03	1.02	0.38	11.82	13.51	1.54	24.28
1000	23.52	26.04	16.57	14.44	1.02	0.39	11.79	13.37	1.58	24.43
1250	23.22	25.85	15.96	13.97	1.02	0.41	11.40	13.09	1.57	23.38
1500	22.88	25.69	15.35	13.56	1.03	0.43	11.44	13.08	1.53	24.09
1750	22.53	25.53	14.94	13.18	1.03	0.45	11.57	13.16	1.57	23.80
2000	22.16	25.33	14.53	12.91	1.03	0.46	11.95	13.41	1.57	23.85
2250	21.79	25.12	14.16	12.58	1.04	0.48	11.08	12.6	1.59	23.58
2500	21.40	24.91	13.82	12.35	1.04	0.50	11.57	12.95	1.62	23.73
2750	21.01	24.69	13.42	12.07	1.04	0.51	11.61	13.08	1.64	24.40
3000	20.60	24.46	12.93	11.81	1.05	0.53	11.59	13.07	1.66	23.43
3250	20.20	24.25	12.49	11.51	1.05	0.54	11.59	13.01	1.71	23.88
3500	19.78	24.04	12.12	11.30	1.06	0.56	11.83	13.33	1.71	24.16
3750	19.37	23.81	11.70	11.14	1.06	0.57	12.07	13.57	1.73	24.46
4000	18.98	23.61	11.33	10.98	1.07	0.59	12.13	13.63	1.75	23.49
4250	18.58	23.41	10.96	10.82	1.07	0.61	12.46	13.85	1.78	23.97
4500	18.18	23.22	10.71	10.77	1.08	0.62	12.43	13.82	1.83	23.69
4750	17.80	23.03	10.35	10.69	1.09	0.64	12.02	13.46	1.84	23.81
5000	17.41	22.81	10.01	10.56	1.09	0.65	12.52	13.95	1.96	23.61
5250	17.02	22.61	9.62	10.47	1.10	0.67	12.07	13.6	2.07	22.66
5500	16.63	22.47	9.31	10.43	1.11	0.69	11.98	13.52	2.05	22.76
5750	16.27	22.34	8.96	10.38	1.11	0.71	11.79	13.31	2.05	22.65
6000	15.90	22.15	8.63	10.31	1.12	0.72	11.69	13.35	2.14	22.54
6250	15.53	22.02	8.34	10.27	1.13	0.74	11.27	12.93	2.18	22.11
6500	15.17	21.84	8.05	10.22	1.13	0.76	11.35	13.08	2.25	22.32
6750	14.81	21.71	7.79	10.15	1.14	0.77	11.19	12.95	2.32	22.31
7000	14.47	21.60	7.56	10.12	1.15	0.79	10.86	12.7	2.44	22.16
7250	14.15	21.51	7.33	10.09	1.16	0.81	10.82	12.66	2.50	21.06
7500	13.81	21.37	7.07	10.00	1.17	0.82	10.41	12.31	2.51	20.86
7750	13.47	21.24	6.83	9.88	1.18	0.83	10.26	12.2	2.56	20.62
8000	13.14	21.16	6.61	9.82	1.18	0.85	10.02	12.05	2.68	20.29

## Typical Performance Data

Note: The following data was taken on the Mini-Circuits Evaluation Board TB-LEE1-39C+ (Figure 3).

### Definitions:

Input Return Loss = S11 (dB)

Gain = S21 (dB)

Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS:  $I_{CC} = 34\text{mA}$ ,  $V_{CC} = 3.64\text{V}$  @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		1dB Comp. Output	3dB Comp. Output	Noise Figure	IP3 - Min
					K	B1				
(MHz)	(dB)	(dB)	(dB)	(dB)	K	B1	(dBm)	(dBm)	(dB)	(dBm)
10	22.1	27.2	32.7	10.7	1.1	0.6	11.4	13.1	2.0	20.5
50	23.7	25.8	27.2	21.4	1.0	0.4	11.5	13.4	2.1	21.7
100	23.7	25.8	27.2	22.1	1.0	0.4	11.9	13.6	2.2	22.3
250	23.7	25.7	26.0	20.8	1.0	0.4	12.1	13.7	2.1	22.6
500	23.4	25.7	24.2	18.5	1.0	0.4	11.6	13.3	2.1	21.9
750	23.1	25.6	23.0	16.7	1.0	0.4	11.3	13.2	2.0	21.5
1000	22.8	25.4	22.8	15.7	1.0	0.4	11.3	13.1	2.1	21.7
1250	22.4	25.3	22.7	15.0	1.0	0.4	10.6	12.6	2.1	20.8
1500	22.1	25.1	22.4	14.6	1.0	0.5	10.1	12.2	2.0	20.1
1750	21.8	24.9	21.7	14.6	1.0	0.5	10.6	12.6	2.0	20.6
2000	21.4	24.7	20.3	14.9	1.0	0.5	10.1	12.0	2.0	19.9
2250	21.0	24.5	18.6	15.6	1.0	0.5	9.6	11.5	2.0	19.4
2500	20.7	24.3	17.0	16.9	1.0	0.6	10.1	12.0	2.1	19.7
2750	20.3	24.0	15.2	18.8	1.0	0.6	10.2	11.9	2.1	20.1
3000	19.9	23.8	13.7	21.4	1.1	0.6	9.9	11.7	2.1	19.3
3250	19.5	23.6	12.3	25.3	1.1	0.7	10.1	12.0	2.2	20.7
3500	19.0	23.4	11.0	28.5	1.1	0.7	10.1	11.9	2.4	19.6
3750	18.6	23.2	10.1	25.1	1.1	0.7	10.6	12.4	2.3	20.0
4000	18.1	23.1	9.3	21.1	1.1	0.8	10.4	12.2	2.3	19.9
4250	17.7	23.0	8.6	18.4	1.1	0.8	10.5	12.3	2.3	19.8
4500	17.2	22.8	8.1	16.4	1.1	0.8	10.2	12.1	2.4	19.3
4750	16.8	22.7	7.7	14.9	1.1	0.8	10.9	12.6	2.5	20.4
5000	16.3	22.6	7.4	13.6	1.1	0.8	10.2	12.0	2.5	19.5
5250	15.9	22.5	7.2	12.5	1.1	0.8	10.4	12.1	2.6	19.4
5500	15.5	22.3	7.0	11.6	1.2	0.8	10.5	12.2	2.6	19.3
5750	15.1	22.3	6.8	11.0	1.2	0.8	10.4	12.1	2.6	19.4
6000	14.6	22.2	6.6	10.5	1.2	0.8	10.1	11.8	2.7	18.4
6250	14.2	22.1	6.4	10.1	1.2	0.8	10.0	11.7	2.9	18.6
6500	13.7	22.1	6.2	9.9	1.2	0.9	9.6	11.4	3.0	18.4
6750	13.3	22.1	6.1	9.8	1.3	0.9	9.3	11.2	3.0	17.8
7000	12.8	22.1	6.0	9.8	1.3	0.9	9.1	11.0	3.1	17.4
7250	12.4	22.1	6.0	10.0	1.3	0.9	8.8	10.8	3.1	17.1
7500	12.2	21.9	5.9	10.0	1.3	0.9	8.6	10.6	3.2	16.8
7750	11.9	21.8	5.8	9.8	1.3	0.9	8.5	10.6	3.3	16.6
8000	11.6	21.6	5.7	9.8	1.3	1.0	8.3	10.4	3.4	15.9

## Typical Performance Data

Note: The following data was taken on the Mini-Circuits Evaluation Board TB-LEE1-39C+ (Figure 3).

### Definitions:

Input Return Loss = S11 (dB)

Gain = S21 (dB)

Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS:  $I_{CC} = 32\text{mA}$ ,  $V_{CC} = 3.83\text{V}$  @Temperature =  $-55\text{degC}$

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		1dB Comp. Output	3dB Comp. Output	Noise Figure	IP3 - Min
					K	B1				
(MHz)	(dB)	(dB)	(dB)	(dB)	K	B1	(dBm)	(dBm)	(dB)	(dBm)
10	22.5	27.7	23.5	9.8	1.1	0.6	10.5	12.6	1.6	20.5
50	24.1	26.2	22.7	18.4	1.0	0.4	10.9	12.8	1.6	21.0
100	24.2	26.2	22.9	19.0	1.0	0.4	11.2	13.2	1.7	21.5
250	24.1	26.1	22.3	18.5	1.0	0.3	11.5	13.4	1.6	22.3
500	23.8	26.1	20.8	16.8	1.0	0.4	11.0	13.0	1.5	21.6
750	23.5	26.0	19.8	15.4	1.0	0.4	10.7	12.7	1.5	21.3
1000	23.2	25.8	19.7	14.7	1.0	0.4	10.7	12.7	1.5	21.5
1250	22.9	25.7	19.6	14.2	1.0	0.4	10.1	12.1	1.5	20.5
1500	22.6	25.5	19.5	14.0	1.0	0.4	9.5	11.5	1.5	19.6
1750	22.3	25.3	19.3	14.1	1.0	0.5	10.1	12.0	1.5	20.3
2000	21.9	25.0	18.7	14.5	1.0	0.5	9.6	11.4	1.5	19.6
2250	21.6	24.8	17.8	15.1	1.0	0.5	9.0	10.8	1.5	18.8
2500	21.2	24.6	16.8	16.2	1.0	0.5	9.5	11.4	1.5	19.2
2750	20.8	24.3	15.3	17.9	1.0	0.6	9.6	11.3	1.6	19.7
3000	20.5	24.1	13.9	19.8	1.0	0.6	9.3	11.0	1.6	18.8
3250	20.1	23.9	12.6	22.2	1.0	0.6	9.6	11.4	1.6	20.7
3500	19.6	23.6	11.4	24.0	1.1	0.7	9.5	11.2	1.8	19.2
3750	19.2	23.5	10.3	22.8	1.1	0.7	10.1	11.9	1.7	19.9
4000	18.7	23.4	9.5	20.2	1.1	0.7	9.9	11.7	1.8	19.7
4250	18.3	23.2	8.8	17.9	1.1	0.7	10.0	11.9	1.8	19.7
4500	17.9	23.1	8.2	15.9	1.1	0.8	9.8	11.7	1.8	19.1
4750	17.4	23.0	7.8	14.4	1.1	0.8	10.8	12.7	1.8	20.9
5000	17.0	22.8	7.5	13.1	1.1	0.8	10.0	11.9	1.9	19.5
5250	16.6	22.6	7.3	12.0	1.1	0.8	10.3	12.2	1.9	19.8
5500	16.2	22.5	7.0	11.1	1.1	0.8	10.6	12.4	2.0	19.9
5750	15.8	22.4	6.8	10.5	1.1	0.8	10.7	12.5	2.0	20.2
6000	15.4	22.4	6.6	10.0	1.1	0.8	10.5	12.2	2.1	19.2
6250	15.0	22.3	6.3	9.6	1.2	0.8	10.8	12.4	2.1	19.9
6500	14.5	22.3	6.2	9.4	1.2	0.8	10.3	12.0	2.2	19.6
6750	14.0	22.3	6.0	9.3	1.2	0.8	10.2	11.9	2.3	19.1
7000	13.6	22.2	5.9	9.3	1.2	0.9	10.0	11.8	2.3	19.0
7250	13.3	22.1	5.8	9.3	1.2	0.9	9.7	11.5	2.4	18.5
7500	13.0	22.0	5.8	9.4	1.2	0.9	9.6	11.4	2.4	18.4
7750	12.7	21.9	5.6	9.2	1.2	0.9	9.5	11.4	2.5	18.1
8000	12.4	21.7	5.5	9.2	1.3	0.9	9.3	11.2	2.6	17.4

## Typical Performance Data

Note: The following data was taken on the Mini-Circuits Evaluation Board TB-LEE1-39C+ (Figure 3).

### Definitions:

Input Return Loss = S11 (dB)

Gain = S21 (dB)

Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS:  $I_{CC} = 36\text{mA}$ ,  $V_{CC} = 3.43\text{V}$  @Temperature = +105degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		1dB Comp. Output	3dB Comp. Output	Noise Figure	IP3 - Min
					K	B1				
(MHz)	(dB)	(dB)	(dB)	(dB)	K	B1	(dBm)	(dBm)	(dB)	(dBm)
10	21.7	27.4	38.7	11.3	1.2	0.6	11.7	13.3	2.7	22.3
50	23.3	25.6	32.4	24.4	1.0	0.4	12.0	13.6	2.7	22.2
100	23.4	25.5	33.3	25.3	1.0	0.4	12.2	13.8	2.8	22.7
250	23.3	25.4	31.6	23.1	1.0	0.4	12.3	13.8	2.7	23.3
500	22.9	25.4	29.2	19.9	1.0	0.4	11.9	13.4	2.7	22.2
750	22.6	25.2	28.3	17.8	1.0	0.4	11.6	13.2	2.6	21.9
1000	22.3	25.1	28.1	16.5	1.0	0.5	11.5	13.1	2.7	21.9
1250	22.0	25.0	27.7	15.6	1.0	0.5	11.0	12.8	2.7	20.9
1500	21.6	24.8	26.5	15.2	1.0	0.5	10.5	12.5	2.6	20.3
1750	21.2	24.6	24.2	15.1	1.0	0.5	10.9	12.7	2.7	20.7
2000	20.8	24.4	21.6	15.4	1.0	0.5	10.5	12.4	2.7	20.1
2250	20.4	24.1	19.0	16.2	1.1	0.6	10.1	12.0	2.7	19.6
2500	20.0	23.9	16.8	17.8	1.1	0.6	10.5	12.3	2.8	19.9
2750	19.6	23.7	14.8	20.1	1.1	0.7	10.6	12.3	2.8	19.9
3000	19.2	23.4	13.2	23.8	1.1	0.7	10.3	12.1	2.8	19.4
3250	18.7	23.3	11.8	30.0	1.1	0.7	10.5	12.3	2.9	20.2
3500	18.2	23.1	10.7	32.3	1.1	0.8	10.4	12.1	3.0	19.3
3750	17.8	22.9	9.8	24.9	1.1	0.8	10.6	12.4	3.0	19.5
4000	17.3	22.8	9.1	20.7	1.1	0.8	10.3	12.2	3.1	19.1
4250	16.8	22.7	8.5	18.1	1.1	0.8	10.2	12.1	3.1	18.8
4500	16.2	22.6	7.9	16.4	1.2	0.8	9.9	11.8	3.2	18.3
4750	15.8	22.5	7.5	15.1	1.2	0.9	10.0	12.0	3.3	18.8
5000	15.3	22.4	7.2	14.0	1.2	0.9	9.6	11.6	3.4	18.1
5250	14.9	22.3	6.9	13.0	1.2	0.9	9.4	11.3	3.4	17.5
5500	14.4	22.2	6.7	12.3	1.2	0.9	9.3	11.3	3.5	17.3
5750	14.0	22.1	6.5	11.7	1.2	0.9	9.0	11.1	3.6	17.2
6000	13.5	22.0	6.4	11.2	1.3	0.9	8.7	10.8	3.6	16.0
6250	13.1	22.0	6.3	10.9	1.3	0.9	8.4	10.5	3.8	16.0
6500	12.6	22.0	6.2	10.6	1.3	0.9	8.0	10.2	3.9	15.9
6750	12.1	22.0	6.2	10.5	1.4	0.9	7.8	10.0	4.0	15.2
7000	11.7	22.0	6.1	10.5	1.4	1.0	7.5	9.7	4.1	14.8
7250	11.3	21.9	6.2	10.7	1.4	1.0	7.3	9.6	4.2	14.5
7500	11.0	21.8	6.1	10.8	1.5	1.0	7.1	9.4	4.2	14.2
7750	10.7	21.6	6.1	10.6	1.5	1.0	7.0	9.4	4.4	14.0
8000	10.4	21.5	6.1	10.6	1.5	1.0	6.7	9.1	4.4	13.3