MMIC Amplifier GALI-51+

Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions or to view GRAPHS.

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

TEST CONDITIONS: Icc = 65mA, Vd = 4.54V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(MHz)	(dBm)	(dBm)	(dB)
50	18.23	22.16	30.11	27.26	1.10	0.63	50	34.75	18.25	3.55
100	18.19	22.13	30.02	26.62	1.10	0.63	100	34.85	18.30	3.72
200	18.16	22.14	30.49	26.59	1.10	0.63	200	34.89	18.29	3.58
400	18.03	22.10	29.70	25.84	1.11	0.62	300	34.89	18.15	3.75
600	17.88	22.15	28.93	24.83	1.12	0.61	400	34.28	18.34	3.68
800	17.73	22.11	27.71	24.12	1.12	0.60	500	34.12	18.22	3.75
1000	17.53	22.16	26.47	23.47	1.14	0.58	600	34.13	18.09	3.74
1200	17.33	22.18	25.40	22.73	1.15	0.57	700	34.51	18.16	3.70
1400	17.12	22.19	23.94	22.06	1.16	0.55	800	34.68	18.22	3.76
1600	16.90	22.23	22.76	21.55	1.18	0.54	900	34.82	18.11	3.69
1800	16.67	22.30	21.49	21.24	1.20	0.52	1000	34.60	18.13	3.67
2000	16.46	22.32	20.36	20.89	1.21	0.50	1100	34.42	17.97	3.66
2200	16.22	22.36	19.30	20.67	1.23	0.48	1200	34.38	17.78	3.74
2400	15.98	22.42	18.39	20.45	1.25	0.47	1300	34.18	17.80	3.72
2600	15.76	22.45	17.53	20.11	1.27	0.45	1400	33.77	17.79	3.79
2800	15.54	22.53	16.81	19.83	1.29	0.43	1500	33.63	17.73	3.82
3000	15.34	22.58	16.01	19.48	1.31	0.42	1600	33.98	17.75	3.78
3200	15.15	22.64	15.53	19.35	1.33	0.41	1700	34.58	17.80	3.75
3400	14.98	22.69	15.00	19.01	1.35	0.40	1800	34.47	17.72	3.93
3600	14.81	22.77	14.59	18.92	1.38	0.39	1900	33.94	17.76	3.75
3800	14.67	22.75	14.30	18.63	1.39	0.38	2000	33.69	17.80	3.62
4000	14.54	22.84	14.09	18.90	1.41	0.37	2100	33.49	17.75	3.82
4200	14.45	22.87	13.91	18.97	1.43	0.37	2200	33.19	17.73	3.67
4400	14.35	22.86	13.95	19.29	1.44	0.37	2300	32.98	17.74	3.83
4600	14.30	22.89	13.91	19.57	1.45	0.36	2400	32.64	17.67	3.73
5000	14.26	22.94	13.86	20.92	1.47	0.36	2500	32.36	17.63	3.75
5500	14.33	22.82	13.78	22.59	1.44	0.36	2600	32.19	17.56	3.77
6000	14.53	22.58	13.40	23.56	1.38	0.38	2700	32.06	17.53	3.80
6500	14.67	22.10	13.18	20.01	1.31	0.41	2800	31.81	17.48	3.78
7000	14.52	21.55	12.76	15.14	1.25	0.44	2900	31.71	17.39	3.82
7500	13.58	21.11	12.04	11.57	1.27	0.44	3000	31.38	17.30	3.68
8000	12.05	20.71	11.17	9.08	1.34	0.44	3100	31.14	17.10	3.98
9000	8.26	19.05	9.04	7.13	1.49	0.42	3200	30.86	17.10	3.75
10000	5.21	16.72	8.20	6.58	1.49	0.40	3300	30.76	17.01	4.04
11000	3.26	14.00	8.59	6.97	1.39	0.38	3400	30.55	16.94	3.86
12000	2.13	11.07	9.37	8.27	1.24	0.39	3500	30.39	16.73	3.83
13000	1.25	7.59	10.65	11.36	1.10	0.47	3600	30.07	16.56	3.99
14000	0.13	4.95	9.00	10.18	1.00	0.61	3700	29.88	16.38	3.82
15000	-2.93	5.38	4.26	4.75	1.00	0.69	3800	29.69	16.17	4.01
16000	-5.89	6.94	2.99	3.35	1.11	0.69	4000	29.47	15.69	3.89

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: Icc = 52mA, Vd = 4.46V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	18.05	21.99	26.96	31.78	1.10	0.63
100	18.01	21.85	26.81	30.52	1.10	0.64
200	17.98	21.90	26.93	30.80	1.10	0.64
400	17.84	21.98	26.63	29.19	1.11	0.62
600	17.70	21.97	26.45	27.42	1.12	0.61
800	17.55	21.96	25.55	26.21	1.12	0.60
1000	17.36	21.98	24.74	25.21	1.14	0.58
1200	17.17	22.01	23.88	24.14	1.15	0.57
1400	16.97	22.02	22.72	23.09	1.16	0.55
1600	16.74	22.09	21.63	22.43	1.18	0.53
1800	16.52	22.10	20.51	21.86	1.19	0.52
2000	16.31	22.13	19.39	21.34	1.20	0.50
2200	16.07	22.22	18.42	20.93	1.23	0.48
2400	15.84	22.24	17.56	20.58	1.24	0.47
2600	15.62	22.31	16.74	20.12	1.27	0.45
2800	15.40	22.37	16.07	19.77	1.29	0.43
3000	15.22	22.41	15.31	19.31	1.30	0.42
3200	15.02	22.48	14.84	19.11	1.33	0.41
3400	14.85	22.53	14.33	18.74	1.34	0.40
3600	14.68	22.64	13.96	18.64	1.37	0.39
3800	14.53	22.61	13.67	18.35	1.38	0.38
4000	14.41	22.70	13.50	18.62	1.40	0.37
4200	14.33	22.71	13.30	18.66	1.41	0.37
4400	14.22	22.73	13.33	19.05	1.43	0.37
4600	14.18	22.75	13.30	19.35	1.44	0.36
5000	14.13	22.80	13.24	20.75	1.46	0.36
5500	14.19	22.70	13.13	22.79	1.44	0.37
6000	14.37	22.45	12.78	24.56	1.38	0.38
6500	14.50	21.95	12.56	20.91	1.30	0.41
7000	14.29	21.40	12.21	15.67	1.25	0.44
7500	13.33	21.00	11.64	11.91	1.28	0.44
8000	11.79	20.58	10.93	9.36	1.36	0.43
9000	8.04	18.99	8.95	7.33	1.51	0.41
10000	5.04	16.71	8.14	6.75	1.52	0.39
11000	3.09	14.03	8.51	7.13	1.41	0.37
12000	1.99	11.13	9.23	8.39	1.25	0.37
13000	1.12	7.62	10.45	11.42	1.10	0.46
14000	0.02	4.95	8.86	10.18	1.01	0.61
15000	-3.03	5.38	4.23	4.75	1.00	0.69
16000	-5.95	6.94	2.99	3.37	1.12	0.68

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	31.43	16.25	3.46
100	31.62	16.37	3.64
200	31.63	16.23	3.48
300	31.60	16.07	3.69
400	31.09	16.33	3.63
500	31.03	16.29	3.66
600	31.02	16.10	3.65
700	31.40	16.23	3.62
800	31.72	16.26	3.68
900	31.79	16.25	3.59
1000	31.68	16.22	3.59
1100	31.43	16.03	3.58
1200	31.43	15.66	3.64
1300	31.32	15.74	3.61
1400	30.98	15.73	3.71
1500	30.93	15.65	3.74
1600	31.23	15.70	3.70
1700	31.82	15.77	3.64
1800	31.77	15.68	3.84
1900	31.41	15.80	3.67
2000	31.20	15.78	3.52
2100	31.06	15.64	3.74
2200	30.95	15.75	3.56
2300	30.90	15.87	3.74
2400	30.85	15.81	3.63
2500	30.64	15.87	3.66
2600	30.69	15.78	3.68
2700	30.56	15.80	3.72
2800	30.53	15.72	3.68
2900	30.35	15.74	3.75
3000	30.22	15.71	3.61
3100	29.97	15.61	3.89
3200	29.87	15.69	3.64
3300	29.76	15.67	3.94
3400	29.63	15.60	3.77
3500	29.37	15.45	3.72
3600	29.03	15.28	3.88
3700	28.76	15.17	3.75
3800	28.58	15.05	3.90
4000	28.50	14.74	3.78

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: Icc = 78mA, Vd = 4.61V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(MHz)	(dBm)	(dBm)	(dB)
50	18.34	22.23	33.42	25.24	1.10	0.64	50	37.28	19.43	3.64
100	18.30	22.27	33.04	24.68	1.10	0.63	100	37.52	19.42	3.81
200	18.26	22.20	33.49	24.71	1.10	0.63	200	37.52	19.45	3.64
400	18.13	22.24	32.08	24.25	1.11	0.62	300	37.41	19.28	3.86
600	17.98	22.22	30.59	23.47	1.12	0.61	400	36.71	19.47	3.77
800	17.83	22.25	29.09	22.92	1.13	0.60	500	36.30	19.28	3.84
1000	17.63	22.25	27.50	22.41	1.14	0.58	600	36.14	19.17	3.82
1200	17.43	22.27	26.24	21.91	1.15	0.57	700	36.31	19.21	3.77
1400	17.22	22.29	24.72	21.37	1.16	0.55	800	36.45	19.22	3.84
1600	16.99	22.34	23.42	21.00	1.18	0.54	900	36.25	19.05	3.77
1800	16.76	22.39	22.14	20.73	1.20	0.52	1000	35.94	19.13	3.74
2000	16.55	22.39	20.94	20.54	1.21	0.50	1100	35.77	19.03	3.76
2200	16.31	22.45	19.91	20.40	1.23	0.48	1200	35.63	18.91	3.79
2400	16.07	22.53	18.99	20.29	1.26	0.46	1300	35.24	18.88	3.79
2600	15.85	22.56	18.04	20.05	1.27	0.45	1400	34.93	18.87	3.88
2800	15.63	22.63	17.31	19.81	1.30	0.43	1500	34.77	18.78	3.91
3000	15.43	22.66	16.54	19.53	1.31	0.42	1600	35.10	18.81	3.87
3200	15.24	22.73	15.99	19.42	1.34	0.41	1700	35.15	18.81	3.83
3400	15.07	22.78	15.47	19.12	1.36	0.40	1800	34.74	18.73	4.03
3600	14.89	22.86	15.08	19.05	1.38	0.39	1900	34.27	18.76	3.83
3800	14.75	22.85	14.76	18.77	1.39	0.38	2000	34.03	18.78	3.72
4000	14.63	22.95	14.56	19.04	1.42	0.37	2100	33.73	18.70	3.92
4200	14.53	22.98	14.38	19.08	1.44	0.37	2200	33.35	18.63	3.75
4400	14.43	22.97	14.42	19.38	1.45	0.36	2300	32.97	18.51	3.92
4600	14.38	22.99	14.37	19.66	1.46	0.36	2400	32.61	18.41	3.83
5000	14.34	23.06	14.36	20.89	1.48	0.36	2500	32.27	18.33	3.83
5500	14.42	22.92	14.27	22.34	1.45	0.36	2600	32.07	18.27	3.88
6000	14.64	22.71	13.90	22.96	1.39	0.38	2700	31.81	18.21	3.90
6500	14.81	22.20	13.66	19.53	1.31	0.41	2800	31.64	18.13	3.86
7000	14.68	21.64	13.20	14.87	1.24	0.44	2900	31.44	18.08	3.91
7500	13.79	21.20	12.35	11.38	1.26	0.45	3000	31.18	17.93	3.80
8000	12.27	20.77	11.36	8.92	1.33	0.44	3100	30.85	17.71	4.08
9000	8.44	19.10	9.09	7.00	1.47	0.43	3200	30.71	17.69	3.86
10000	5.38	16.74	8.24	6.45	1.47	0.41	3300	30.48	17.59	4.12
11000	3.39	14.00	8.65	6.86	1.37	0.39	3400	30.31	17.52	3.96
12000	2.25	11.04	9.51	8.18	1.23	0.40	3500	30.19	17.33	3.91
13000	1.36	7.56	10.84	11.35	1.09	0.48	3600	29.85	17.16	4.08
14000	0.21	4.95	9.12	10.19	1.00	0.62	3700	29.69	16.95	3.94
15000	-2.85	5.36	4.30	4.74	1.00	0.69	3800	29.42	16.76	4.13
16000	-5.82	6.93	3.00	3.34	1.11	0.69	4000	29.19	16.30	4.00

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: Icc = 65mA, Vd = 4.78V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	18.30	22.10	28.67	28.12	1.09	0.64
100	18.27	22.09	27.26	28.30	1.09	0.64
200	18.23	22.15	26.80	29.20	1.10	0.64
400	18.12	22.08	30.40	25.20	1.10	0.63
600	17.98	22.10	29.02	24.70	1.11	0.62
800	17.83	22.11	27.95	23.70	1.12	0.61
1000	17.65	22.13	26.25	23.86	1.13	0.59
1200	17.46	22.13	25.90	22.75	1.14	0.58
1400	17.27	22.15	24.43	21.90	1.15	0.57
1600	17.05	22.21	23.50	21.08	1.17	0.55
1800	16.83	22.23	22.12	21.13	1.18	0.53
2000	16.61	22.25	21.07	20.77	1.19	0.52
2200	16.38	22.28	20.00	20.47	1.21	0.50
2400	16.15	22.34	19.05	20.22	1.23	0.48
2600	15.93	22.42	18.11	19.79	1.25	0.46
2800	15.71	22.48	17.22	19.73	1.27	0.45
3000	15.52	22.47	16.41	19.40	1.29	0.44
3200	15.34	22.55	16.04	19.17	1.31	0.42
3400	15.18	22.60	15.79	18.91	1.33	0.41
3600	15.01	22.72	15.41	19.11	1.36	0.40
3800	14.88	22.64	15.07	19.00	1.36	0.40
4000	14.76	22.73	14.88	19.29	1.39	0.39
4200	14.67	22.75	14.75	19.72	1.40	0.38
4400	14.57	22.76	14.93	19.90	1.41	0.38
4600	14.52	22.82	14.86	19.65	1.42	0.37
5000	14.47	22.87	14.93	20.18	1.44	0.37
5500	14.54	22.77	14.33	21.13	1.41	0.38
6000	14.84	22.58	13.60	23.71	1.35	0.40
6500	15.14	22.00	14.24	20.79	1.26	0.44
7000	15.12	21.47	13.71	14.17	1.19	0.48
7500	14.36	21.02	12.05	10.64	1.17	0.49
8000	13.06	20.61	11.01	8.87	1.22	0.48
9000	9.45	18.83	9.60	7.13	1.34	0.46
10000	5.94	16.97	7.45	5.52	1.35	0.47
11000	3.98	14.14	8.12	6.55	1.27	0.41
12000	3.22	10.82	10.28	8.72	1.15	0.43
13000	1.81	7.81	9.25	8.66	1.03	0.53
14000	0.80	4.87	9.68	11.90	0.95	0.60
15000	-1.62	4.48	4.29	4.71	0.93	0.80
16000	-7.05	8.34	1.75	2.08	0.99	0.79

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	35.52	18.41	3.10
100	35.60	18.48	3.26
200	35.65	18.37	3.09
300	35.78	18.31	3.38
400	35.18	18.53	3.19
500	35.11	18.45	3.21
600	35.13	18.32	3.22
700	35.54	18.39	3.15
800	35.85	18.41	3.23
900	35.97	18.35	3.12
1000	35.73	18.34	3.11
1100	35.58	18.19	3.11
1200	35.55	17.96	3.15
1300	35.36	18.02	3.15
1400	35.09	17.99	3.24
1500	34.95	17.94	3.23
1600	35.29	17.98	3.21
1700	35.98	18.03	3.17
1800	35.94	17.98	3.34
1900	35.52	18.06	3.16
2000	35.27	18.08	3.05
2100	35.22	17.99	3.21
2200	34.86	18.07	3.05
2300	34.73	18.10	3.22
2400	34.51	18.06	3.16
2500	34.13	18.10	3.15
2600	34.14	18.00	3.15
2700	34.10	17.97	3.20
2800	33.56	17.91	3.14
2900	33.61	17.93	3.21
3000	33.33	17.88	3.07
3100	33.15	17.73	3.33
3200	32.78	17.70	3.14
3300	32.72	17.65	3.39
3400	32.53	17.60	3.20
3500	32.25	17.44	3.18
3600	32.01	17.29	3.28
3700	31.75	17.15	3.20
3800	31.57	16.96	3.34
4000	31.42	16.58	3.22

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: Icc = 52mA, Vd = 4.69V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(MHz)	(dBm)	(dBm)	(dB)
50	18.14	21.94	26.19	32.08	1.09	0.64	50	32.14	16.19	3.02
100	18.10	22.00	24.90	33.46	1.10	0.64	100	32.22	16.28	3.17
200	18.07	21.94	24.66	34.57	1.10	0.64	200	32.21	16.05	3.05
400	17.97	21.94	27.43	27.79	1.10	0.63	300	32.26	15.99	3.23
600	17.83	21.97	26.76	26.84	1.11	0.62	400	31.89	16.33	3.13
800	17.69	21.98	25.99	25.47	1.12	0.61	500	31.86	16.25	3.14
1000	17.51	21.98	24.67	25.37	1.13	0.59	600	31.86	16.13	3.15
1200	17.32	21.98	24.52	24.04	1.14	0.58	700	32.27	16.23	3.05
1400	17.13	22.03	23.27	22.98	1.15	0.56	800	32.55	16.24	3.18
1600	16.91	22.05	22.49	21.94	1.16	0.55	900	32.66	16.23	3.06
1800	16.69	22.10	21.18	21.79	1.18	0.53	1000	32.52	16.21	3.05
2000	16.48	22.11	20.21	21.29	1.19	0.51	1100	32.35	15.93	3.03
2200	16.26	22.18	19.17	20.85	1.21	0.50	1200	32.35	15.61	3.11
2400	16.03	22.24	18.26	20.43	1.23	0.48	1300	32.25	15.74	3.07
2600	15.80	22.25	17.42	19.87	1.25	0.46	1400	31.98	15.66	3.15
2800	15.58	22.34	16.52	19.68	1.27	0.45	1500	31.93	15.63	3.16
3000	15.40	22.36	15.72	19.25	1.28	0.43	1600	32.19	15.64	3.15
3200	15.22	22.43	15.43	18.95	1.30	0.42	1700	32.78	15.78	3.11
3400	15.07	22.44	15.15	18.69	1.32	0.41	1800	32.75	15.66	3.27
3600	14.89	22.56	14.76	18.83	1.35	0.40	1900	32.51	15.80	3.09
3800	14.77	22.52	14.46	18.78	1.35	0.40	2000	32.38	15.80	2.97
4000	14.64	22.59	14.26	19.02	1.38	0.39	2100	32.24	15.68	3.15
4200	14.56	22.58	14.13	19.46	1.38	0.39	2200	32.23	15.80	2.99
4400	14.47	22.64	14.30	19.73	1.40	0.38	2300	32.15	15.91	3.16
4600	14.42	22.70	14.27	19.55	1.42	0.37	2400	32.14	15.94	3.05
5000	14.36	22.75	14.29	20.15	1.43	0.37	2500	32.12	16.04	3.08
5500	14.42	22.65	13.68	21.24	1.41	0.38	2600	32.18	15.90	3.08
6000	14.70	22.46	13.03	24.18	1.35	0.40	2700	32.16	15.90	3.14
6500	14.98	21.87	13.58	21.54	1.26	0.44	2800	31.92	15.89	3.06
7000	14.94	21.35	13.07	14.51	1.19	0.47	2900	31.88	15.90	3.16
7500	14.12	20.91	11.65	10.91	1.18	0.48	3000	31.79	15.90	2.98
8000	12.82	20.51	10.76	9.13	1.23	0.47	3100	31.65	15.86	3.28
9000	9.23	18.80	9.49	7.31	1.36	0.45	3200	31.53	15.86	3.05
10000	5.76	16.95	7.42	5.65	1.37	0.46	3300	31.44	15.96	3.33
11000	3.83	14.16	8.05	6.69	1.29	0.39	3400	31.30	15.94	3.13
12000	3.08	10.87	10.10	8.82	1.16	0.42	3500	31.16	15.75	3.13
13000	1.70	7.84	9.07	8.70	1.03	0.52	3600	30.73	15.69	3.22
14000	0.70	4.88	9.53	11.87	0.95	0.59	3700	30.45	15.60	3.14
15000	-1.72	4.50	4.24	4.70	0.93	0.79	3800	30.22	15.50	3.24
16000	-7.12	8.36	1.74	2.09	1.00	0.79	4000	30.13	15.35	3.14

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: Icc = 78mA, Vd = 4.85V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(MHz)	(dBm)	(dBm)	(dB)
50	18.40	22.02	30.98	25.86	1.08	0.66	50	37.83	19.71	3.16
100	18.36	22.18	29.34	26.36	1.09	0.64	100	38.11	19.73	3.35
200	18.33	22.21	28.69	27.20	1.10	0.64	200	38.09	19.73	3.15
400	18.22	22.17	32.62	23.71	1.10	0.63	300	38.03	19.59	3.43
600	18.08	22.19	30.72	23.39	1.11	0.62	400	37.46	19.77	3.24
800	17.93	22.21	29.27	22.66	1.12	0.61	500	37.36	19.64	3.30
1000	17.74	22.22	27.31	22.80	1.13	0.59	600	37.33	19.52	3.29
1200	17.56	22.23	26.84	21.91	1.14	0.58	700	37.56	19.56	3.21
1400	17.35	22.24	25.15	21.21	1.15	0.57	800	37.81	19.62	3.29
1600	17.13	22.29	24.12	20.53	1.17	0.55	900	37.75	19.46	3.21
1800	16.91	22.33	22.76	20.67	1.18	0.53	1000	37.67	19.53	3.18
2000	16.70	22.39	21.64	20.35	1.20	0.51	1100	37.50	19.42	3.19
2200	16.46	22.38	20.54	20.13	1.21	0.50	1200	37.55	19.27	3.22
2400	16.23	22.42	19.57	19.96	1.23	0.48	1300	37.14	19.27	3.21
2600	16.01	22.53	18.64	19.65	1.26	0.46	1400	36.80	19.26	3.30
2800	15.79	22.57	17.75	19.65	1.28	0.44	1500	36.64	19.22	3.33
3000	15.60	22.61	16.93	19.41	1.29	0.43	1600	37.00	19.26	3.27
3200	15.42	22.64	16.57	19.25	1.31	0.42	1700	37.44	19.26	3.25
3400	15.26	22.67	16.31	18.95	1.33	0.41	1800	37.23	19.22	3.40
3600	15.08	22.78	15.91	19.20	1.36	0.40	1900	36.78	19.26	3.25
3800	14.95	22.77	15.55	19.08	1.37	0.39	2000	36.50	19.31	3.13
4000	14.83	22.81	15.36	19.37	1.39	0.39	2100	36.34	19.26	3.29
4200	14.75	22.85	15.25	19.77	1.41	0.38	2200	35.92	19.23	3.15
4400	14.65	22.85	15.44	19.89	1.42	0.38	2300	35.57	19.16	3.30
4600	14.59	22.91	15.41	19.63	1.43	0.37	2400	35.19	19.06	3.20
5000	14.54	22.95	15.50	20.08	1.44	0.37	2500	34.78	19.03	3.22
5500	14.62	22.86	14.88	20.92	1.42	0.38	2600	34.62	18.96	3.22
6000	14.93	22.71	14.10	23.16	1.36	0.40	2700	34.43	18.93	3.28
6500	15.25	22.10	14.86	20.29	1.27	0.44	2800	34.01	18.89	3.20
7000	15.28	21.54	14.25	13.98	1.19	0.48	2900	33.81	18.86	3.27
7500	14.55	21.10	12.41	10.45	1.17	0.49	3000	33.59	18.75	3.15
8000	13.29	20.67	11.23	8.67	1.21	0.49	3100	33.40	18.54	3.42
9000	9.66	18.89	9.67	6.98	1.32	0.47	3200	33.15	18.50	3.23
10000	6.09	16.99	7.48	5.40	1.34	0.48	3300	32.96	18.43	3.45
11000	4.13	14.13	8.19	6.45	1.26	0.42	3400	32.84	18.39	3.28
12000	3.35	10.80	10.46	8.61	1.14	0.45	3500	32.60	18.20	3.27
13000	1.92	7.79	9.41	8.60	1.02	0.54	3600	32.41	18.07	3.38
14000	0.88	4.88	9.83	11.92	0.95	0.60	3700	32.12	17.91	3.29
15000	-1.54	4.48	4.35	4.73	0.93	0.80	3800	31.86	17.74	3.42
16000	-6.97	8.33	1.75	2.08	0.99	0.79	4000	31.78	17.29	3.32

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: Icc = 65mA, Vd = 4.36V @Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	18.13	22.01	30.22	27.94	1.10	0.64
100	18.09	22.18	31.79	26.01	1.11	0.62
200	18.04	21.96	34.25	24.80	1.10	0.64
400	17.91	22.04	29.23	26.15	1.11	0.62
600	17.76	22.05	27.86	25.74	1.12	0.61
800	17.60	22.08	26.49	25.04	1.13	0.59
1000	17.40	22.12	25.37	24.50	1.14	0.58
1200	17.20	22.12	24.39	23.67	1.15	0.56
1400	16.99	22.14	23.09	22.85	1.17	0.55
1600	16.75	22.19	22.02	22.26	1.18	0.53
1800	16.52	22.23	20.85	21.77	1.20	0.51
2000	16.30	22.27	19.75	21.25	1.22	0.49
2200	16.06	22.34	18.72	20.88	1.24	0.47
2400	15.81	22.44	17.88	20.64	1.27	0.45
2600	15.59	22.44	16.97	20.24	1.28	0.44
2800	15.36	22.52	16.25	19.92	1.31	0.42
3000	15.15	22.54	15.49	19.51	1.32	0.41
3200	14.95	22.65	14.90	19.30	1.35	0.40
3400	14.76	22.71	14.22	18.91	1.37	0.38
3600	14.57	22.83	13.76	18.72	1.40	0.37
3800	14.43	22.81	13.35	18.37	1.41	0.37
4000	14.30	22.88	13.10	18.60	1.44	0.36
4200	14.20	22.95	12.94	18.70	1.46	0.36
4400	14.10	22.90	12.99	19.01	1.46	0.35
4600	14.04	22.94	13.00	19.49	1.48	0.35
5000	13.99	22.97	13.03	21.33	1.50	0.35
5500	14.05	22.87	12.98	23.76	1.48	0.35
6000	14.16	22.56	12.71	24.15	1.42	0.37
6500	14.10	22.17	12.22	20.06	1.36	0.38
7000	13.71	21.62	11.93	16.15	1.33	0.40
7500	12.64	21.12	11.87	12.63	1.38	0.40
8000	10.99	20.76	11.30	9.54	1.49	0.39
9000	7.07	19.15	8.62	7.05	1.64	0.39
10000	4.36	16.60	8.32	7.27	1.62	0.36
11000	2.57	13.81	8.97	7.68	1.50	0.35
12000	1.10	11.23	8.75	7.92	1.34	0.36
13000	0.40	7.67	10.71	12.42	1.18	0.40
14000	-0.54	5.01	8.96	10.23	1.07	0.59
15000	-4.33	6.40	3.79	4.23	1.08	0.65
16000	-5.69	6.54	3.99	4.50	1.22	0.59

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	34.44	18.09	3.96
100	34.69	18.11	4.14
200	34.77	18.12	3.96
300	34.64	17.97	4.31
400	33.93	18.16	4.13
500	33.69	18.01	4.20
600	33.57	17.90	4.18
700	33.83	17.95	4.16
800	34.02	17.97	4.18
900	33.96	17.84	4.15
1000	33.72	17.88	4.14
1100	33.50	17.75	4.14
1200	33.36	17.58	4.19
1300	33.07	17.57	4.18
1400	32.75	17.57	4.26
1500	32.65	17.50	4.32
1600	33.03	17.51	4.26
1700	33.43	17.54	4.25
1800	33.00	17.48	4.40
1900	32.56	17.51	4.25
2000	32.29	17.53	4.13
2100	32.01	17.44	4.34
2200	31.66	17.38	4.16
2300	31.36	17.35	4.32
2400	30.98	17.23	4.27
2500	30.65	17.16	4.26
2600	30.42	17.09	4.32
2700	30.19	17.03	4.32
2800	29.99	16.92	4.31
2900	29.80	16.88	4.36
3000	29.57	16.70	4.21
3100	29.29	16.46	4.51
3200	29.00	16.45	4.27
3300	28.92	16.38	4.57
3400	28.76	16.26	4.43
3500	28.53	16.02	4.36
3600	28.26	15.77	4.55
3700	28.00	15.62	4.35
3800	27.78	15.40	4.59
4000	27.41	14.96	4.43

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: Icc = 52mA, Vd = 4.28V @Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	17.92	21.97	26.61	33.07	1.11	0.63
100	17.89	21.99	27.39	30.32	1.11	0.62
200	17.85	21.89	29.47	28.40	1.11	0.63
400	17.72	21.85	26.32	29.69	1.11	0.62
600	17.57	21.85	25.28	28.50	1.12	0.61
800	17.41	21.90	24.38	27.13	1.13	0.59
1000	17.22	21.92	23.52	26.12	1.14	0.58
1200	17.01	21.93	22.76	24.86	1.15	0.56
1400	16.81	22.00	21.75	23.79	1.17	0.55
1600	16.59	22.00	20.75	22.94	1.18	0.53
1800	16.35	22.07	19.75	22.29	1.20	0.51
2000	16.14	22.11	18.82	21.56	1.22	0.49
2200	15.90	22.16	17.82	21.05	1.24	0.48
2400	15.66	22.19	17.02	20.64	1.25	0.46
2600	15.43	22.28	16.20	20.18	1.28	0.44
2800	15.20	22.38	15.53	19.77	1.30	0.42
3000	15.01	22.42	14.82	19.26	1.32	0.41
3200	14.79	22.49	14.25	19.01	1.34	0.40
3400	14.61	22.55	13.64	18.57	1.36	0.39
3600	14.43	22.66	13.19	18.29	1.39	0.38
3800	14.29	22.63	12.77	17.98	1.40	0.37
4000	14.14	22.73	12.57	18.13	1.43	0.36
4200	14.05	22.81	12.43	18.24	1.45	0.36
4400	13.95	22.74	12.44	18.59	1.45	0.36
4600	13.90	22.83	12.47	19.06	1.47	0.35
5000	13.86	22.80	12.47	20.95	1.48	0.35
5500	13.89	22.70	12.46	23.73	1.47	0.35
6000	13.99	22.42	12.15	25.16	1.41	0.37
6500	13.90	22.02	11.73	21.05	1.36	0.38
7000	13.50	21.46	11.52	16.71	1.33	0.40
7500	12.41	21.01	11.55	13.02	1.39	0.39
8000	10.77	20.65	11.10	9.79	1.51	0.39
9000	6.90	19.09	8.58	7.23	1.66	0.38
10000	4.21	16.60	8.27	7.44	1.65	0.35
11000	2.43	13.83	8.91	7.82	1.52	0.34
12000	0.99	11.28	8.67	8.03	1.36	0.35
13000	0.29	7.71	10.57	12.44	1.19	0.39
14000	-0.63	5.02	8.87	10.25	1.07	0.59
15000	-4.40	6.41	3.78	4.24	1.08	0.65
16000	-5.74	6.55	3.98	4.51	1.22	0.59

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	31.10	16.35	3.87
100	31.29	16.37	4.06
200	31.42	16.33	3.90
300	31.34	16.19	4.24
400	30.74	16.40	4.08
500	30.63	16.31	4.10
600	30.57	16.14	4.11
700	30.93	16.25	4.06
800	31.18	16.28	4.11
900	31.20	16.22	4.07
1000	31.05	16.24	4.07
1100	30.86	15.97	4.05
1200	30.76	15.68	4.11
1300	30.67	15.71	4.08
1400	30.33	15.75	4.19
1500	30.28	15.69	4.22
1600	30.62	15.66	4.18
1700	31.19	15.78	4.14
1800	31.05	15.67	4.34
1900	30.69	15.79	4.18
2000	30.46	15.78	4.03
2100	30.27	15.65	4.26
2200	30.10	15.70	4.05
2300	30.01	15.82	4.28
2400	29.83	15.75	4.18
2500	29.60	15.77	4.17
2600	29.58	15.71	4.21
2700	29.32	15.65	4.24
2800	29.25	15.57	4.21
2900	29.13	15.55	4.29
3000	28.92	15.47	4.12
3100	28.73	15.29	4.41
3200	28.53	15.36	4.15
3300	28.47	15.33	4.48
3400	28.26	15.20	4.30
3500	28.08	14.98	4.26
3600	27.77	14.80	4.45
3700	27.59	14.64	4.25
3800	27.33	14.43	4.48
4000	27.10	14.11	4.32

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: Icc = 78mA, Vd = 4.44V @Temperature = +85degC

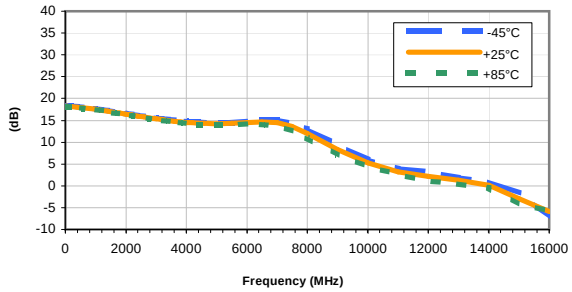
FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	18.25	22.24	33.48	25.29	1.10	0.63
100	18.21	22.12	36.28	24.15	1.10	0.64
200	18.16	22.11	39.93	23.18	1.10	0.63
400	18.02	22.20	31.85	24.31	1.11	0.62
600	17.87	22.16	29.66	24.12	1.12	0.61
800	17.71	22.20	28.03	23.69	1.13	0.59
1000	17.51	22.21	26.55	23.42	1.14	0.58
1200	17.30	22.25	25.43	22.87	1.16	0.56
1400	17.09	22.26	24.04	22.22	1.17	0.55
1600	16.85	22.30	22.80	21.74	1.19	0.53
1800	16.62	22.37	21.51	21.45	1.21	0.51
2000	16.40	22.36	20.40	21.03	1.22	0.50
2200	16.15	22.45	19.31	20.79	1.24	0.47
2400	15.90	22.50	18.42	20.64	1.27	0.46
2600	15.68	22.53	17.46	20.33	1.29	0.44
2800	15.44	22.60	16.72	20.11	1.31	0.43
3000	15.24	22.68	15.92	19.71	1.33	0.41
3200	15.02	22.74	15.29	19.54	1.36	0.40
3400	14.85	22.81	14.61	19.21	1.38	0.38
3600	14.66	22.89	14.14	19.06	1.40	0.37
3800	14.51	22.88	13.69	18.69	1.41	0.37
4000	14.37	22.99	13.44	18.96	1.44	0.36
4200	14.28	23.03	13.29	19.07	1.46	0.36
4400	14.18	22.97	13.33	19.39	1.47	0.36
4600	14.12	23.07	13.33	19.86	1.49	0.35
5000	14.07	23.07	13.39	21.72	1.50	0.35
5500	14.12	22.94	13.34	24.03	1.48	0.35
6000	14.23	22.67	13.05	23.91	1.43	0.36
6500	14.18	22.28	12.51	19.82	1.37	0.38
7000	13.81	21.74	12.21	15.95	1.34	0.40
7500	12.73	21.22	12.07	12.55	1.38	0.40
8000	11.08	20.85	11.40	9.48	1.49	0.39
9000	7.15	19.18	8.63	6.99	1.63	0.39
10000	4.42	16.61	8.33	7.21	1.61	0.36
11000	2.63	13.79	8.99	7.62	1.49	0.35
12000	1.16	11.22	8.79	7.87	1.33	0.37
13000	0.45	7.64	10.83	12.41	1.17	0.41
14000	-0.50	5.00	9.03	10.23	1.07	0.60
15000	-4.29	6.41	3.80	4.22	1.08	0.65
16000	-5.66	6.54	4.00	4.50	1.22	0.59

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	37.31	19.17	4.04
100	37.60	19.14	4.24
200	37.51	19.18	4.05
300	37.13	18.98	4.43
400	36.39	19.17	4.21
500	35.80	18.98	4.31
600	35.47	18.83	4.26
700	35.46	18.87	4.26
800	35.34	18.89	4.29
900	35.07	18.69	4.26
1000	34.61	18.81	4.20
1100	34.34	18.67	4.24
1200	34.19	18.58	4.28
1300	33.71	18.49	4.28
1400	33.47	18.52	4.37
1500	33.28	18.40	4.40
1600	33.50	18.44	4.35
1700	33.25	18.39	4.32
1800	32.77	18.29	4.51
1900	32.43	18.27	4.36
2000	32.12	18.30	4.20
2100	31.80	18.17	4.41
2200	31.45	18.05	4.27
2300	31.02	17.97	4.43
2400	30.63	17.81	4.36
2500	30.31	17.70	4.35
2600	30.06	17.61	4.41
2700	29.73	17.55	4.42
2800	29.50	17.43	4.41
2900	29.26	17.36	4.46
3000	29.03	17.21	4.30
3100	28.82	16.98	4.61
3200	28.55	16.97	4.39
3300	28.38	16.86	4.66
3400	28.18	16.76	4.51
3500	27.96	16.50	4.47
3600	27.72	16.26	4.67
3700	27.44	16.09	4.46
3800	27.20	15.88	4.71
4000	26.75	15.45	4.65

Typical Performance Curves

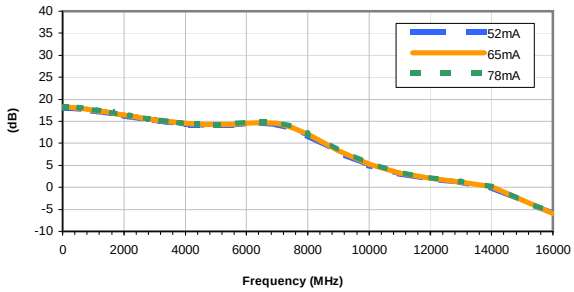
GAIN vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 65mA



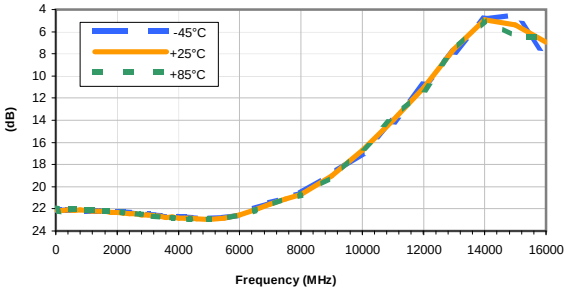
GAIN vs. CURRENT

INPUT POWER = -20dBm, Temperature = +25°C



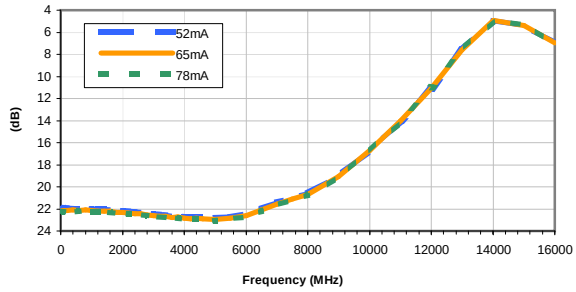
ISOLATION vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 65mA



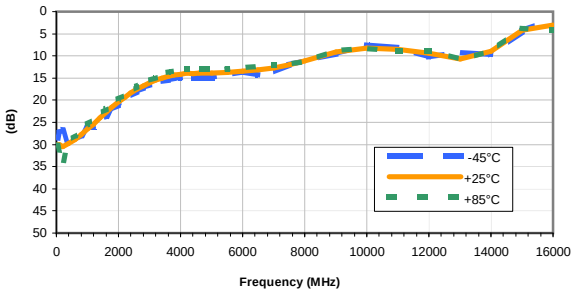
ISOLATION vs. CURRENT

INPUT POWER = -20dBm, Temperature = +25°C



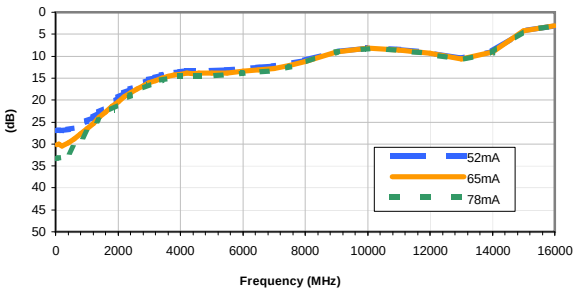
INPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 65mA



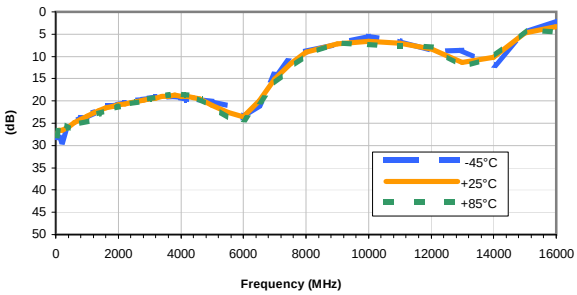
INPUT RETURN LOSS vs. CURRENT

INPUT POWER = -20dBm, Temperature = +25°C



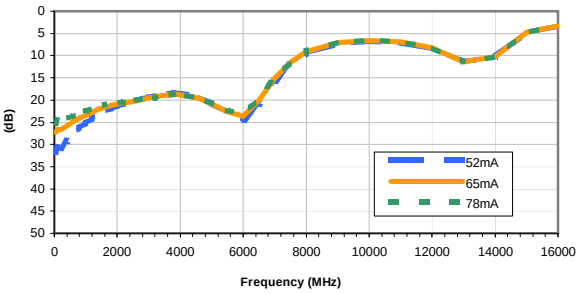
OUTPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 65mA



OUTPUT RETURN LOSS vs. CURRENT

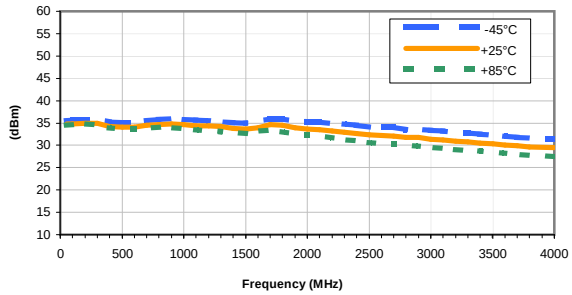
INPUT POWER = -20dBm, Temperature = +25°C



Typical Performance Curves

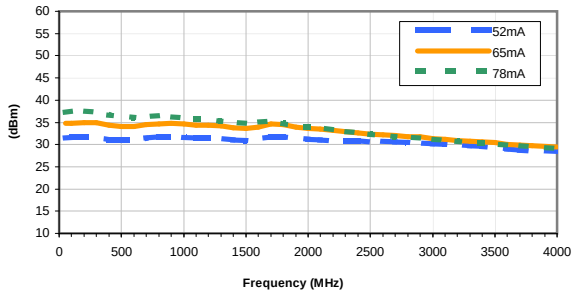
OUTPUT IP3 vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 65mA



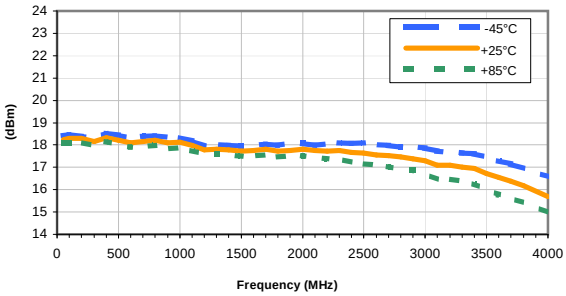
OUTPUT IP3 vs. CURRENT

INPUT POWER = -20dBm, Temperature = +25°C



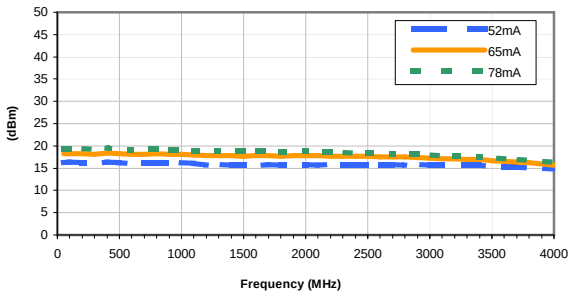
OUTPUT POWER at 1dB Compression vs. TEMPERATURE

CURRENT = 65mA



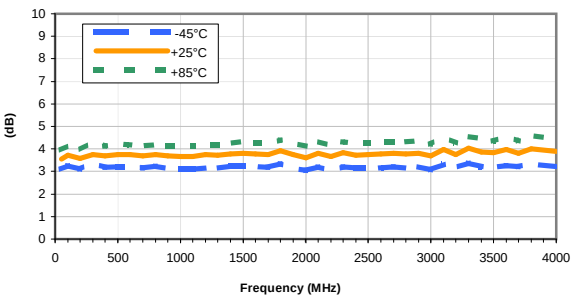
OUTPUT POWER at 1dB Compression vs. CURRENT

Temperature = +25°C



Noise Figure vs. TEMPERATURE

CURRENT = 65mA



Noise Figure vs. CURRENT

Temperature = +25°C