

MMIC Amplifier

PMA2-252LNA+

Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +4V$, $I_S = 59.59 \text{ mA}$ @ Temperature = $+25^\circ\text{C}$

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)
1500	19.45	38.31	-24.80	-10.04	4.01	0.89	31.32	18.52	0.61
1525	19.40	38.06	-24.60	-10.70	3.98	0.90	31.36	18.45	0.55
1550	19.36	38.10	-24.33	-11.38	4.07	0.91	30.97	18.18	0.61
1575	19.29	38.05	-24.14	-12.14	4.13	0.93	31.18	18.31	0.57
1600	19.22	37.61	-23.81	-12.97	4.00	0.94	31.56	18.67	0.59
1625	19.16	37.72	-23.32	-13.88	4.12	0.95	30.60	18.05	0.62
1650	19.08	37.64	-22.82	-14.83	4.14	0.96	31.30	18.39	0.56
1675	19.00	37.53	-22.44	-15.86	4.16	0.96	31.32	18.35	0.68
1700	18.92	37.52	-21.99	-16.98	4.21	0.97	30.71	18.02	0.62
1725	18.84	37.42	-21.62	-18.26	4.22	0.98	31.17	18.39	0.64
1750	18.74	37.48	-21.26	-19.75	4.31	0.98	30.77	17.93	0.65
1800	18.55	37.46	-20.54	-23.31	4.41	0.99	30.74	17.96	0.71
1850	18.34	37.41	-19.86	-27.42	4.49	1.00	30.86	18.00	0.75
1900	18.11	37.32	-19.37	-27.36	4.55	1.00	30.66	17.80	0.76
1925	17.99	37.39	-19.09	-25.34	4.64	1.00	30.73	17.97	0.87
1950	17.87	37.37	-18.81	-23.39	4.68	1.00	30.81	17.92	0.80
1975	17.75	37.24	-18.52	-21.57	4.66	1.00	30.48	17.66	0.79
2000	17.61	37.31	-18.30	-20.06	4.75	1.00	30.59	17.78	0.74
2025	17.46	37.23	-18.07	-18.70	4.76	0.99	30.38	17.71	0.89
2050	17.32	37.36	-17.75	-17.55	4.89	0.99	30.34	17.52	0.90
2075	17.16	37.26	-17.49	-16.65	4.89	0.99	29.96	17.40	0.89
2100	17.00	37.11	-17.27	-15.76	4.87	0.99	30.18	17.49	0.82
2125	16.84	37.55	-17.00	-15.11	5.17	0.98	29.92	17.31	1.00
2175	16.61	37.45	-16.54	-14.23	5.20	0.98	29.34	16.93	1.05
2200	16.54	37.17	-16.33	-13.99	5.06	0.98	30.07	17.45	0.82
2225	16.50	37.34	-16.25	-13.81	5.17	0.98	28.54	16.48	0.86
2250	16.50	37.08	-16.12	-13.49	5.00	0.97	29.68	17.08	0.84
2275	16.49	37.02	-15.97	-13.08	4.95	0.97	28.96	16.73	0.95
2300	16.45	36.76	-15.88	-12.64	4.79	0.97	29.00	16.69	1.06
2325	16.41	36.83	-15.80	-12.14	4.81	0.96	28.67	16.52	0.96
2350	16.34	36.87	-15.67	-11.62	4.82	0.95	29.53	16.82	0.89
2375	16.25	36.82	-15.62	-11.14	4.80	0.95	28.58	16.39	0.83
2450	15.94	37.14	-15.32	-9.71	4.96	0.92	28.59	16.36	1.07
2475	15.81	37.04	-15.29	-9.33	4.93	0.91	28.36	16.21	1.04
2500	15.68	37.19	-15.19	-8.94	5.01	0.90	28.54	16.24	1.24



Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +3.5V$, $I_S = 50.69 \text{ mA}$ @ Temperature = $+25^\circ\text{C}$

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)
1500	19.24	36.98	-21.62	-10.79	3.59	0.90	29.20	17.37	0.58
1525	19.19	36.96	-21.27	-11.53	3.65	0.91	29.05	17.31	0.55
1550	19.14	37.02	-20.92	-12.31	3.74	0.93	28.40	17.06	0.58
1575	19.06	36.77	-20.68	-13.17	3.70	0.94	28.70	17.16	0.54
1600	18.99	36.54	-20.43	-14.14	3.67	0.95	29.19	17.48	0.63
1625	18.91	36.50	-20.07	-15.19	3.72	0.96	28.11	16.92	0.59
1650	18.83	36.51	-19.68	-16.37	3.78	0.97	28.73	17.24	0.57
1675	18.75	36.43	-19.40	-17.64	3.80	0.97	28.74	17.17	0.70
1700	18.66	36.36	-19.08	-19.09	3.82	0.98	27.98	16.89	0.63
1725	18.56	36.34	-18.83	-20.83	3.86	0.99	28.47	17.24	0.80
1750	18.46	36.41	-18.59	-22.85	3.94	0.99	27.90	16.79	0.66
1800	18.26	36.22	-18.10	-28.75	3.95	1.00	27.79	16.81	0.72
1850	18.04	36.11	-17.66	-31.88	3.99	1.00	27.92	16.87	0.76
1900	17.80	36.47	-17.32	-25.42	4.25	1.00	27.64	16.67	0.77
1925	17.68	36.26	-17.12	-22.95	4.19	1.00	27.77	16.83	0.86
1950	17.55	36.17	-16.93	-21.10	4.19	1.00	27.84	16.77	0.82
1975	17.42	36.20	-16.74	-19.48	4.25	1.00	27.39	16.53	0.81
2000	17.28	36.46	-16.59	-18.18	4.42	1.00	27.63	16.64	0.75
2025	17.13	36.34	-16.41	-17.03	4.41	0.99	27.46	16.55	0.89
2050	16.98	36.13	-16.20	-16.00	4.35	0.99	27.28	16.36	0.93
2075	16.82	36.55	-16.01	-15.20	4.61	0.99	26.99	16.25	0.92
2100	16.65	36.52	-15.85	-14.42	4.65	0.98	27.22	16.33	0.81
2125	16.50	36.36	-15.61	-13.83	4.61	0.98	26.90	16.16	1.03
2175	16.26	36.42	-15.25	-13.01	4.71	0.98	26.34	15.79	1.07
2200	16.18	36.33	-15.11	-12.78	4.68	0.97	27.00	16.28	0.83
2225	16.14	36.31	-15.05	-12.60	4.68	0.97	25.55	15.37	0.87
2250	16.12	36.18	-14.98	-12.31	4.60	0.97	26.51	15.92	0.84
2275	16.10	36.13	-14.89	-11.93	4.55	0.96	25.88	15.59	0.94
2300	16.06	36.11	-14.84	-11.55	4.53	0.96	25.81	15.55	1.09
2325	16.01	35.94	-14.80	-11.11	4.43	0.95	25.56	15.39	0.99
2350	15.93	36.08	-14.70	-10.65	4.49	0.94	26.25	15.69	0.86
2375	15.83	36.05	-14.70	-10.24	4.48	0.94	25.45	15.26	0.86
2450	15.50	36.31	-14.52	-8.97	4.60	0.91	25.38	15.16	1.15
2475	15.37	36.39	-14.48	-8.62	4.66	0.90	25.21	15.05	1.05
2500	15.23	36.45	-14.41	-8.28	4.69	0.89	25.35	15.03	1.25

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_s = +4.5V$, $I_s = 68.6 \text{ mA}$ @ 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)
1500	19.57	39.28	-26.04	-9.55	4.35	0.88	30.51	19.20	0.58
1525	19.54	39.31	-26.39	-10.16	4.46	0.89	30.49	19.13	0.57
1550	19.50	38.97	-26.62	-10.80	4.37	0.90	30.44	18.84	0.58
1575	19.44	39.20	-26.83	-11.48	4.57	0.92	30.33	19.00	0.53
1600	19.37	38.87	-26.57	-12.24	4.49	0.93	30.57	19.36	0.60
1625	19.31	38.76	-26.15	-13.05	4.51	0.94	30.02	18.73	0.64
1650	19.24	38.69	-25.59	-13.90	4.55	0.95	30.31	19.11	0.54
1675	19.17	38.73	-25.17	-14.80	4.64	0.96	30.40	19.11	0.67
1700	19.09	38.66	-24.65	-15.78	4.68	0.96	30.17	18.74	0.65
1725	19.01	38.57	-24.19	-16.87	4.70	0.97	30.35	19.18	0.66
1750	18.92	38.30	-23.71	-18.07	4.63	0.98	30.21	18.71	0.64
1800	18.73	38.40	-22.77	-20.83	4.80	0.99	30.18	18.74	0.70
1850	18.54	38.43	-21.88	-23.96	4.94	0.99	30.17	18.83	0.78
1900	18.31	38.17	-21.17	-25.89	4.92	1.00	30.08	18.68	0.78
1925	18.19	38.25	-20.83	-25.36	5.02	1.00	30.16	18.86	0.85
1950	18.08	38.17	-20.49	-24.12	5.03	1.00	30.19	18.80	0.82
1975	17.96	38.10	-20.11	-22.60	5.05	1.00	30.07	18.55	0.78
2000	17.82	38.29	-19.78	-21.14	5.22	1.00	30.12	18.71	0.78
2025	17.68	38.30	-19.50	-19.75	5.29	0.99	30.01	18.60	0.89
2050	17.53	38.31	-19.12	-18.60	5.36	0.99	29.96	18.48	0.85
2075	17.37	38.17	-18.81	-17.60	5.35	0.99	29.77	18.33	0.89
2100	17.21	38.25	-18.49	-16.66	5.46	0.99	30.00	18.43	0.81
2125	17.06	38.00	-18.17	-15.99	5.37	0.98	29.82	18.28	0.98
2175	16.83	38.18	-17.62	-15.10	5.58	0.98	29.56	17.88	1.02
2200	16.77	38.04	-17.39	-14.88	5.52	0.98	29.84	18.39	0.80
2225	16.73	38.16	-17.25	-14.70	5.61	0.98	29.36	17.42	0.87
2250	16.73	37.67	-17.06	-14.36	5.28	0.98	29.74	18.07	0.83
2275	16.73	37.60	-16.88	-13.90	5.21	0.98	29.61	17.68	0.96
2300	16.70	37.65	-16.75	-13.42	5.22	0.97	29.71	17.65	1.07
2325	16.66	37.47	-16.64	-12.87	5.11	0.97	29.55	17.49	0.97
2350	16.60	37.61	-16.49	-12.27	5.18	0.96	29.76	17.83	0.84
2375	16.51	37.48	-16.40	-11.76	5.11	0.95	29.63	17.35	0.89
2450	16.22	37.74	-16.03	-10.22	5.25	0.93	29.54	17.34	1.05
2475	16.09	37.67	-15.95	-9.80	5.23	0.92	29.44	17.21	1.08
2500	15.97	37.66	-15.82	-9.38	5.23	0.91	29.61	17.23	1.19

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +4V$, $I_S = 61.67\text{ mA}$ @ Temperature = -40°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)
1500	19.93	38.63	-23.21	-9.44	3.87	0.87	31.93	18.94	0.42
1525	19.89	38.69	-23.96	-10.04	3.98	0.89	32.11	18.89	0.38
1550	19.86	38.59	-24.72	-10.66	4.01	0.90	31.80	18.62	0.38
1575	19.80	38.44	-25.43	-11.34	4.02	0.91	32.03	18.73	0.39
1600	19.74	38.10	-25.81	-12.06	3.95	0.92	32.41	19.08	0.41
1625	19.68	38.16	-26.19	-12.84	4.04	0.93	31.59	18.47	0.45
1650	19.61	38.18	-26.24	-13.65	4.12	0.94	32.20	18.84	0.35
1675	19.53	38.12	-26.31	-14.52	4.16	0.95	32.12	18.80	0.46
1700	19.46	38.07	-26.15	-15.45	4.19	0.96	31.59	18.45	0.40
1725	19.38	38.01	-25.90	-16.51	4.23	0.96	32.08	18.82	0.43
1750	19.29	37.90	-25.50	-17.65	4.24	0.97	31.83	18.36	0.43
1800	19.12	37.62	-24.62	-20.48	4.22	0.98	31.87	18.38	0.48
1850	18.92	37.85	-23.75	-23.76	4.44	0.99	31.93	18.43	0.52
1900	18.70	37.53	-23.12	-26.10	4.39	0.99	31.82	18.25	0.52
1925	18.59	37.75	-22.74	-25.72	4.56	0.99	31.73	18.42	0.57
1950	18.47	37.74	-22.44	-24.50	4.61	0.99	31.88	18.34	0.54
1975	18.35	37.68	-22.02	-22.88	4.62	0.99	31.55	18.12	0.51
2000	18.21	37.62	-21.69	-21.37	4.65	0.99	31.78	18.25	0.46
2025	18.08	37.82	-21.26	-19.90	4.81	0.99	31.61	18.12	0.61
2050	17.93	37.86	-20.83	-18.67	4.89	0.99	31.45	17.99	0.59
2075	17.76	38.04	-20.50	-17.60	5.06	0.98	31.09	17.88	0.60
2100	17.59	37.83	-20.02	-16.57	5.01	0.98	31.30	17.94	0.50
2125	17.43	38.03	-19.60	-15.80	5.19	0.98	31.08	17.79	0.71
2175	17.17	37.58	-18.89	-14.78	5.03	0.97	30.56	17.40	0.72
2200	17.09	37.74	-18.58	-14.56	5.16	0.97	31.14	17.85	0.52
2225	17.05	37.51	-18.44	-14.43	5.03	0.97	29.68	16.89	0.55
2250	17.06	37.45	-18.27	-14.16	4.98	0.97	30.84	17.55	0.50
2275	17.07	37.31	-18.05	-13.76	4.87	0.97	30.09	17.12	0.63
2300	17.06	37.13	-17.93	-13.31	4.75	0.96	30.19	17.12	0.75
2325	17.02	37.12	-17.81	-12.76	4.73	0.96	29.80	16.95	0.67
2350	16.97	37.22	-17.65	-12.19	4.77	0.95	30.85	17.29	0.55
2375	16.88	37.23	-17.55	-11.66	4.78	0.95	29.68	16.81	0.55
2450	16.58	37.35	-17.10	-10.10	4.83	0.92	29.73	16.82	0.70
2475	16.46	37.40	-16.95	-9.66	4.87	0.91	29.49	16.65	0.71
2500	16.33	37.54	-16.80	-9.26	4.95	0.90	29.73	16.71	0.85

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +3.5V$, $I_S = 51.58 \text{ mA}$ @ Temperature = -40°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)
1500	19.65	37.75	-24.03	-9.97	3.68	0.88	30.14	17.56	0.43
1525	19.60	37.70	-24.16	-10.63	3.74	0.90	30.05	17.52	0.35
1550	19.56	37.56	-24.20	-11.31	3.74	0.91	29.27	17.28	0.40
1575	19.49	37.34	-24.23	-12.07	3.72	0.92	29.89	17.40	0.32
1600	19.42	37.19	-24.14	-12.87	3.73	0.93	30.25	17.71	0.41
1625	19.35	37.08	-23.75	-13.75	3.75	0.94	29.10	17.18	0.41
1650	19.28	37.09	-23.27	-14.66	3.81	0.95	29.91	17.51	0.37
1675	19.20	37.08	-22.93	-15.67	3.87	0.96	29.81	17.46	0.46
1700	19.12	36.86	-22.44	-16.76	3.82	0.97	28.95	17.15	0.41
1725	19.04	36.98	-22.03	-18.04	3.93	0.97	29.61	17.49	0.49
1750	18.94	36.96	-21.67	-19.46	3.98	0.98	28.92	17.08	0.42
1800	18.75	36.91	-20.93	-23.13	4.06	0.99	28.76	17.09	0.47
1850	18.55	36.67	-20.31	-27.48	4.04	0.99	29.04	17.16	0.51
1900	18.32	36.74	-19.83	-27.45	4.17	0.99	28.72	16.99	0.54
1925	18.20	36.73	-19.62	-25.37	4.22	1.00	28.85	17.16	0.61
1950	18.08	36.66	-19.35	-23.34	4.23	0.99	28.90	17.07	0.57
1975	17.96	36.79	-19.10	-21.52	4.33	0.99	28.49	16.86	0.53
2000	17.82	36.86	-18.86	-19.99	4.42	0.99	28.81	16.99	0.50
2025	17.68	36.80	-18.58	-18.57	4.44	0.99	28.46	16.87	0.60
2050	17.52	36.82	-18.28	-17.41	4.50	0.99	28.36	16.74	0.61
2075	17.36	37.13	-18.00	-16.45	4.72	0.99	28.06	16.61	0.61
2100	17.18	36.88	-17.73	-15.48	4.64	0.98	28.27	16.66	0.52
2125	17.02	36.91	-17.40	-14.77	4.71	0.98	27.91	16.52	0.72
2175	16.75	36.95	-16.88	-13.80	4.83	0.97	27.32	16.16	0.75
2200	16.67	36.89	-16.64	-13.56	4.82	0.97	27.91	16.58	0.52
2225	16.63	36.76	-16.52	-13.40	4.76	0.97	26.39	15.71	0.54
2250	16.63	36.55	-16.40	-13.16	4.63	0.97	27.39	16.27	0.52
2275	16.63	36.61	-16.28	-12.80	4.64	0.97	26.65	15.92	0.65
2300	16.61	36.41	-16.21	-12.40	4.51	0.96	26.59	15.91	0.78
2325	16.56	36.42	-16.14	-11.90	4.50	0.96	26.34	15.75	0.67
2350	16.50	36.44	-16.06	-11.39	4.50	0.95	27.15	16.05	0.54
2375	16.41	36.38	-16.02	-10.92	4.47	0.94	26.19	15.64	0.52
2450	16.10	36.61	-15.71	-9.50	4.58	0.91	26.18	15.57	0.73
2475	15.97	36.59	-15.63	-9.09	4.57	0.90	25.95	15.43	0.71
2500	15.84	37.03	-15.54	-8.73	4.81	0.89	26.21	15.46	0.87

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +4.5V$, $I_S = 72.08 \text{ mA}$ @ Temperature = -40°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)
1500	20.00	39.98	-21.73	-8.92	4.38	0.86	32.29	19.67	0.42
1525	19.97	39.81	-22.44	-9.48	4.39	0.88	32.31	19.63	0.38
1550	19.94	39.67	-23.22	-10.05	4.41	0.89	32.03	19.33	0.41
1575	19.89	39.43	-23.98	-10.67	4.38	0.90	32.30	19.47	0.40
1600	19.83	39.18	-24.45	-11.31	4.35	0.92	32.71	19.82	0.44
1625	19.77	39.36	-25.12	-12.02	4.52	0.93	31.70	19.20	0.43
1650	19.71	38.98	-25.63	-12.73	4.41	0.94	32.33	19.55	0.36
1675	19.64	39.08	-26.14	-13.49	4.53	0.94	32.19	19.53	0.46
1700	19.58	39.06	-26.35	-14.31	4.59	0.95	31.75	19.17	0.44
1725	19.50	38.87	-26.53	-15.21	4.56	0.96	32.14	19.56	0.44
1750	19.41	38.91	-26.43	-16.17	4.65	0.97	31.93	19.09	0.42
1800	19.24	38.90	-25.91	-18.43	4.78	0.98	31.97	19.10	0.48
1850	19.06	38.90	-25.24	-21.03	4.91	0.98	32.03	19.19	0.54
1900	18.85	38.69	-24.55	-23.54	4.92	0.99	31.84	18.99	0.52
1925	18.74	38.63	-24.18	-24.21	4.95	0.99	31.76	19.16	0.60
1950	18.63	38.61	-23.85	-24.15	5.00	0.99	31.95	19.08	0.58
1975	18.51	38.37	-23.41	-23.47	4.92	0.99	31.68	18.82	0.54
2000	18.37	38.90	-23.05	-22.37	5.30	0.99	31.84	18.96	0.51
2025	18.24	38.61	-22.55	-21.06	5.19	0.99	31.71	18.86	0.63
2050	18.09	38.77	-22.05	-19.84	5.35	0.99	31.55	18.72	0.58
2075	17.93	38.94	-21.67	-18.80	5.54	0.99	31.32	18.58	0.61
2100	17.76	38.64	-21.18	-17.70	5.43	0.98	31.42	18.67	0.54
2125	17.60	38.84	-20.69	-16.90	5.63	0.98	31.29	18.50	0.69
2175	17.34	38.70	-19.87	-15.87	5.67	0.98	30.97	18.11	0.73
2200	17.27	38.59	-19.59	-15.65	5.63	0.98	31.41	18.60	0.54
2225	17.24	38.18	-19.38	-15.54	5.38	0.98	30.34	17.63	0.60
2250	17.25	38.21	-19.16	-15.27	5.38	0.98	31.08	18.26	0.55
2275	17.27	37.86	-18.89	-14.81	5.14	0.97	30.76	17.88	0.66
2300	17.26	37.81	-18.74	-14.31	5.09	0.97	30.82	17.86	0.76
2325	17.23	37.88	-18.54	-13.68	5.11	0.97	30.61	17.65	0.68
2350	17.18	37.76	-18.34	-13.03	5.02	0.96	31.15	18.04	0.60
2375	17.10	37.90	-18.21	-12.45	5.11	0.95	30.50	17.55	0.55
2450	16.82	38.00	-17.67	-10.71	5.16	0.93	30.51	17.54	0.85
2475	16.70	37.71	-17.48	-10.23	5.00	0.92	30.30	17.38	0.71
2500	16.58	37.99	-17.34	-9.79	5.17	0.91	30.41	17.42	0.88

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_s = +4V$, $I_s = 58.6 \text{ mA}$ @ 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)
1500	19.03	39.03	-22.64	-9.82	4.53	0.89	30.55	18.22	0.76
1525	18.99	39.06	-22.25	-10.45	4.63	0.90	30.65	18.21	0.72
1550	18.94	38.87	-21.89	-11.10	4.61	0.91	30.65	17.96	0.76
1575	18.88	38.63	-21.62	-11.81	4.58	0.93	30.39	18.02	0.74
1600	18.81	38.52	-21.34	-12.59	4.60	0.94	30.71	18.41	0.78
1625	18.74	38.73	-20.87	-13.42	4.79	0.95	30.22	17.81	0.83
1650	18.67	38.49	-20.45	-14.28	4.74	0.96	30.44	18.14	0.72
1675	18.59	38.23	-20.11	-15.19	4.67	0.97	30.50	18.11	0.84
1700	18.51	38.44	-19.71	-16.17	4.85	0.97	30.40	17.81	0.79
1725	18.42	38.17	-19.42	-17.29	4.77	0.98	30.46	18.17	0.83
1750	18.33	38.27	-19.14	-18.46	4.90	0.99	30.46	17.73	0.82
1800	18.13	38.09	-18.59	-21.23	4.92	1.00	30.47	17.77	0.89
1850	17.93	38.17	-18.01	-24.15	5.09	1.00	30.34	17.81	0.94
1900	17.71	38.09	-17.57	-25.70	5.17	1.01	30.22	17.61	0.93
1925	17.59	38.00	-17.35	-25.15	5.17	1.01	30.23	17.78	1.05
1950	17.47	37.93	-17.14	-23.96	5.19	1.01	30.28	17.76	1.03
1975	17.34	37.91	-16.89	-22.54	5.24	1.01	30.18	17.47	1.03
2000	17.21	37.97	-16.69	-21.22	5.34	1.01	30.08	17.59	0.96
2025	17.07	38.23	-16.49	-19.90	5.56	1.01	30.07	17.51	1.10
2050	16.93	37.98	-16.24	-18.79	5.46	1.01	29.97	17.36	1.09
2075	16.77	38.28	-16.01	-17.88	5.73	1.00	29.86	17.19	1.10
2100	16.62	38.17	-15.86	-17.02	5.72	1.00	29.95	17.31	1.01
2125	16.48	37.94	-15.61	-16.35	5.64	1.00	29.81	17.15	1.20
2175	16.27	37.80	-15.24	-15.46	5.64	1.00	29.50	16.75	1.22
2200	16.21	37.86	-15.09	-15.21	5.70	1.00	29.89	17.30	1.06
2225	16.17	37.66	-14.98	-14.97	5.58	1.00	29.38	16.29	1.07
2250	16.16	37.64	-14.86	-14.59	5.55	0.99	29.80	16.95	1.07
2275	16.15	37.50	-14.73	-14.11	5.44	0.99	29.65	16.55	1.21
2300	16.12	37.49	-14.64	-13.60	5.42	0.99	29.69	16.54	1.29
2325	16.07	37.36	-14.54	-13.03	5.32	0.98	29.52	16.33	1.23
2350	16.01	37.40	-14.45	-12.45	5.34	0.98	29.83	16.68	1.13
2375	15.92	37.23	-14.36	-11.91	5.24	0.97	29.56	16.21	1.12
2450	15.63	37.51	-14.12	-10.38	5.41	0.95	29.33	16.18	1.33
2475	15.49	37.67	-14.10	-9.95	5.53	0.94	29.28	16.04	1.31
2500	15.37	37.54	-13.99	-9.54	5.46	0.93	29.25	16.02	1.50

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +3.5V$, $I_S = 50.16 \text{ mA}$ @ Temperature = $+85^\circ\text{C}$

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)
1500	18.81	37.88	-19.69	-10.26	4.11	0.90	29.17	17.20	0.77
1525	18.76	37.87	-19.34	-10.93	4.18	0.91	29.13	17.16	0.71
1550	18.71	37.62	-19.05	-11.63	4.13	0.92	28.51	16.96	0.77
1575	18.64	37.56	-18.80	-12.41	4.18	0.94	28.74	16.99	0.73
1600	18.57	37.35	-18.60	-13.24	4.16	0.95	29.25	17.35	0.76
1625	18.49	37.34	-18.26	-14.15	4.22	0.96	28.13	16.77	0.83
1650	18.42	37.33	-17.95	-15.14	4.28	0.97	28.82	17.07	0.73
1675	18.33	37.46	-17.71	-16.14	4.41	0.98	28.84	17.00	0.84
1700	18.25	37.15	-17.43	-17.29	4.31	0.98	28.08	16.74	0.80
1725	18.16	37.29	-17.20	-18.58	4.44	0.99	28.60	17.08	0.82
1750	18.06	37.09	-17.01	-19.97	4.40	1.00	28.07	16.64	0.84
1800	17.86	37.07	-16.58	-23.43	4.50	1.00	27.97	16.72	0.91
1850	17.65	37.03	-16.16	-26.96	4.58	1.01	28.11	16.73	0.94
1900	17.42	37.12	-15.85	-26.88	4.74	1.01	27.78	16.52	0.96
1925	17.30	37.07	-15.69	-25.22	4.77	1.02	27.95	16.67	1.05
1950	17.17	37.04	-15.51	-23.39	4.80	1.02	27.99	16.62	1.00
1975	17.05	37.03	-15.33	-21.70	4.85	1.02	27.61	16.36	1.01
2000	16.91	37.07	-15.19	-20.31	4.93	1.01	27.78	16.47	0.99
2025	16.77	37.21	-15.04	-19.00	5.06	1.01	27.59	16.39	1.09
2050	16.62	37.16	-14.84	-17.89	5.08	1.01	27.42	16.21	1.07
2075	16.47	37.36	-14.67	-17.02	5.27	1.01	27.14	16.07	1.11
2100	16.32	37.18	-14.54	-16.18	5.22	1.01	27.36	16.16	1.03
2125	16.17	37.20	-14.38	-15.53	5.29	1.00	27.06	15.98	1.25
2175	15.96	37.11	-14.06	-14.66	5.31	1.00	26.51	15.63	1.26
2200	15.89	37.10	-13.94	-14.42	5.33	1.00	27.22	16.13	1.03
2225	15.85	37.14	-13.86	-14.18	5.36	1.00	25.77	15.17	1.11
2250	15.84	36.93	-13.79	-13.84	5.22	1.00	26.74	15.73	1.07
2275	15.82	36.79	-13.68	-13.38	5.11	0.99	26.11	15.41	1.20
2300	15.79	36.77	-13.63	-12.90	5.09	0.99	26.02	15.37	1.32
2325	15.73	36.67	-13.58	-12.39	5.02	0.98	25.74	15.19	1.24
2350	15.66	36.60	-13.50	-11.86	4.97	0.98	26.45	15.48	1.15
2375	15.57	36.65	-13.45	-11.38	5.01	0.97	25.63	15.05	1.09
2450	15.26	36.91	-13.28	-9.92	5.15	0.94	25.56	14.96	1.35
2475	15.13	37.07	-13.28	-9.54	5.27	0.93	25.44	14.84	1.32
2500	15.01	37.08	-13.20	-9.14	5.28	0.93	25.51	14.80	1.50

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +4.5V$, $I_S = 67.05 \text{ mA}$ @ Temperature = $+85^\circ\text{C}$

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)
1500	19.16	40.21	-25.31	-9.45	5.05	0.88	29.62	18.81	0.76
1525	19.12	40.09	-24.98	-10.05	5.08	0.88	29.67	18.77	0.73
1550	19.08	39.79	-24.66	-10.66	5.01	0.88	29.56	18.51	0.75
1575	19.02	39.82	-24.38	-11.33	5.12	0.89	29.50	18.59	0.71
1600	18.95	39.49	-23.98	-12.04	5.03	0.89	29.69	18.98	0.80
1625	18.89	39.35	-23.42	-12.81	5.03	0.89	29.27	18.36	0.78
1650	18.81	39.47	-22.84	-13.60	5.19	0.89	29.53	18.72	0.73
1675	18.74	39.16	-22.44	-14.43	5.09	0.90	29.61	18.72	0.87
1700	18.67	39.26	-21.94	-15.33	5.22	0.90	29.31	18.42	0.79
1725	18.58	39.09	-21.55	-16.30	5.19	0.90	29.50	18.82	0.83
1750	18.49	39.02	-21.15	-17.31	5.23	0.91	29.37	18.33	0.86
1800	18.30	39.00	-20.41	-19.65	5.36	0.91	29.23	18.42	0.89
1850	18.10	39.03	-19.68	-22.10	5.51	0.92	29.22	18.52	0.96
1900	17.88	38.85	-19.09	-23.98	5.54	0.92	29.25	18.32	0.96
1925	17.77	39.01	-18.82	-24.14	5.71	0.92	29.31	18.56	1.05
1950	17.65	38.92	-18.53	-23.71	5.72	0.93	29.26	18.53	1.02
1975	17.53	38.93	-18.22	-22.73	5.79	0.93	29.17	18.24	1.02
2000	17.40	39.08	-17.98	-21.69	5.96	0.93	29.21	18.41	0.98
2025	17.26	38.77	-17.75	-20.50	5.83	0.93	29.13	18.31	1.08
2050	17.12	38.91	-17.44	-19.45	5.99	0.93	29.11	18.18	1.06
2075	16.96	38.97	-17.17	-18.58	6.11	0.94	29.00	18.05	1.09
2100	16.82	38.94	-16.97	-17.69	6.17	0.94	29.11	18.16	1.03
2125	16.68	38.82	-16.69	-17.03	6.16	0.94	28.96	17.99	1.19
2175	16.47	38.54	-16.23	-16.16	6.07	0.95	28.71	17.61	1.26
2200	16.41	38.61	-16.04	-15.89	6.14	0.95	28.98	18.17	1.04
2225	16.37	38.36	-15.93	-15.66	5.98	0.95	28.56	17.13	1.11
2250	16.37	38.07	-15.76	-15.26	5.76	0.95	28.89	17.82	1.08
2275	16.36	37.93	-15.59	-14.73	5.64	0.95	28.69	17.40	1.21
2300	16.34	37.98	-15.47	-14.18	5.66	0.95	28.76	17.39	1.29
2325	16.29	37.93	-15.37	-13.57	5.62	0.96	28.63	17.20	1.20
2350	16.23	37.83	-15.23	-12.94	5.54	0.96	28.82	17.60	1.16
2375	16.15	38.05	-15.14	-12.38	5.69	0.96	28.63	17.09	1.15
2450	15.86	37.89	-14.80	-10.73	5.59	0.96	28.57	17.10	1.33
2475	15.73	37.85	-14.75	-10.30	5.58	0.97	28.55	16.96	1.33
2500	15.61	37.87	-14.64	-9.85	5.60	0.97	28.75	16.96	1.50

MMIC Amplifier

PMA2-252LNA+

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +3V$, $I_S = 40.82 \text{ mA}$ @ Temperature = $+25^\circ\text{C}$

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)
1500	18.80	36.26	-17.82	-10.78	3.47	0.90	27.06	16.30	0.60
1525	18.75	36.32	-17.52	-11.51	3.54	0.92	26.98	16.31	0.65
1550	18.69	36.16	-17.28	-12.31	3.51	0.93	26.47	16.19	0.64
1575	18.62	36.10	-17.03	-13.15	3.57	0.95	26.61	16.15	0.70
1600	18.54	35.88	-16.83	-14.06	3.55	0.96	26.94	16.49	0.66
1625	18.46	35.81	-16.65	-15.11	3.58	0.97	26.00	16.08	0.69
1650	18.38	35.71	-16.42	-16.23	3.61	0.97	26.48	16.32	0.74
1675	18.29	35.78	-16.25	-17.47	3.70	0.98	26.32	16.27	0.69
1700	18.20	35.70	-16.06	-18.92	3.70	0.99	25.85	16.03	0.74
1725	18.11	35.67	-15.87	-20.58	3.65	1.00	26.32	16.35	0.71
1750	18.01	35.54	-15.72	-22.62	3.72	1.00	25.73	15.90	0.72
1800	17.80	35.50	-15.39	-28.53	3.86	1.01	25.60	15.98	0.76
1850	17.58	35.38	-15.11	-34.15	3.94	1.02	25.67	15.92	0.78
1900	17.34	35.50	-14.90	-26.47	3.94	1.02	25.38	15.76	0.86
1925	17.22	35.58	-14.74	-23.77	4.07	1.02	25.47	15.80	0.80
1950	17.09	35.57	-14.62	-21.63	4.07	1.02	25.61	15.90	0.86
1975	16.96	35.58	-14.49	-20.03	4.19	1.02	25.18	15.62	0.90
2000	16.82	35.69	-14.38	-18.57	4.16	1.01	25.29	15.66	0.92
2025	16.66	35.77	-14.30	-17.37	4.27	1.01	25.16	15.69	0.89
2050	16.51	35.80	-14.16	-16.33	4.32	1.01	25.07	15.58	0.90
2075	16.35	35.74	-14.01	-15.43	4.39	1.00	24.78	15.33	0.93
2100	16.19	35.82	-13.87	-14.69	4.55	1.00	24.95	15.41	0.95
2125	16.04	35.95	-13.75	-14.04	4.48	1.00	24.73	15.26	0.98
2175	15.79	35.85	-13.47	-13.23	4.59	0.99	24.12	14.85	0.95
2200	15.73	35.87	-13.37	-12.97	4.57	0.99	24.77	15.25	1.05
2225	15.69	35.80	-13.30	-12.78	4.58	0.99	23.59	14.48	0.98
2250	15.67	35.74	-13.28	-12.52	4.48	0.99	24.27	14.86	0.95
2275	15.65	35.69	-13.25	-12.18	4.46	0.98	23.82	14.63	1.08
2300	15.62	35.59	-13.21	-11.77	4.43	0.98	23.80	14.56	1.01
2325	15.55	35.60	-13.21	-11.34	4.40	0.97	23.41	14.30	0.98
2350	15.48	35.62	-13.20	-10.88	4.43	0.96	24.09	14.67	1.03
2375	15.39	35.79	-13.16	-10.42	4.38	0.96	23.37	14.28	1.10
2450	15.07	35.79	-13.07	-9.14	4.56	0.93	23.37	14.15	1.09
2475	14.93	35.95	-13.07	-8.80	4.66	0.92	23.07	13.95	1.18
2500	14.81	36.12	-13.03	-8.44	4.68	0.91	23.19	13.93	1.08

MMIC Amplifier

PMA2-252LNA+

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +2.7V$, $I_S = 35.73 \text{ mA}$ @ Temperature = $+25^\circ\text{C}$

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)
1500	18.50	35.76	-15.76	-11.21	3.38	0.92	26.26	15.20	0.66
1525	18.45	35.68	-15.51	-11.99	3.41	0.93	26.20	15.20	0.68
1550	18.38	35.59	-15.32	-12.85	3.44	0.95	25.73	15.10	0.64
1575	18.31	35.46	-15.13	-13.76	3.44	0.96	25.84	15.09	0.72
1600	18.23	35.40	-14.99	-14.75	3.47	0.97	26.17	15.40	0.67
1625	18.14	35.20	-14.84	-15.93	3.45	0.98	25.30	15.02	0.70
1650	18.06	35.30	-14.65	-17.13	3.54	0.99	25.71	15.29	0.68
1675	17.96	35.24	-14.51	-18.56	3.56	1.00	25.60	15.24	0.75
1700	17.87	35.15	-14.36	-20.24	3.57	1.00	25.17	14.99	0.76
1725	17.77	35.12	-14.22	-22.27	3.60	1.01	25.56	15.30	0.72
1750	17.67	35.10	-14.12	-24.83	3.64	1.02	25.04	14.92	0.74
1800	17.46	34.99	-13.89	-33.78	3.68	1.02	24.90	14.96	0.80
1850	17.23	35.06	-13.66	-32.04	3.78	1.03	24.93	14.91	0.82
1900	16.98	34.97	-13.50	-24.25	3.83	1.03	24.65	14.74	0.86
1925	16.86	34.96	-13.39	-22.01	3.86	1.03	24.67	14.82	0.84
1950	16.73	35.09	-13.30	-20.21	3.95	1.03	24.85	14.90	0.88
1975	16.60	35.14	-13.18	-18.77	4.01	1.03	24.46	14.61	0.91
2000	16.45	35.17	-13.13	-17.46	4.07	1.02	24.50	14.65	0.93
2025	16.29	35.38	-13.05	-16.40	4.21	1.02	24.38	14.68	0.94
2050	16.14	35.22	-12.93	-15.44	4.17	1.02	24.29	14.56	0.94
2075	15.98	35.37	-12.82	-14.61	4.28	1.01	23.97	14.31	1.00
2100	15.81	35.27	-12.73	-13.93	4.28	1.01	24.15	14.38	1.00
2125	15.66	35.31	-12.61	-13.34	4.34	1.00	23.93	14.24	0.97
2175	15.41	35.48	-12.41	-12.56	4.49	1.00	23.35	13.84	0.97
2200	15.35	35.39	-12.31	-12.31	4.45	1.00	24.00	14.22	1.07
2225	15.30	35.36	-12.26	-12.10	4.44	0.99	22.82	13.47	1.00
2250	15.28	35.40	-12.27	-11.86	4.46	0.99	23.50	13.82	0.99
2275	15.25	35.29	-12.25	-11.54	4.39	0.99	23.05	13.61	1.08
2300	15.21	35.07	-12.22	-11.15	4.26	0.98	23.04	13.55	1.01
2325	15.14	35.04	-12.25	-10.74	4.24	0.97	22.66	13.30	1.00
2350	15.07	35.31	-12.23	-10.32	4.37	0.97	23.28	13.61	1.07
2375	14.98	35.10	-12.23	-9.89	4.26	0.96	22.59	13.28	1.07
2450	14.64	35.52	-12.16	-8.70	4.45	0.93	22.54	13.07	1.12
2475	14.50	35.71	-12.18	-8.37	4.57	0.91	22.25	12.89	1.13
2500	14.37	35.63	-12.15	-8.03	4.52	0.90	22.38	12.86	1.18

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +3.3V$, $I_S = 46.05 \text{ mA}$ @ Temperature = $+25^\circ\text{C}$

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)
1500	19.04	37.00	-20.02	-10.44	3.65	0.90	28.03	17.26	0.62
1525	18.99	36.78	-19.66	-11.14	3.63	0.91	27.98	17.25	0.65
1550	18.93	36.73	-19.36	-11.89	3.68	0.92	27.38	17.14	0.61
1575	18.87	36.67	-19.08	-12.69	3.71	0.94	27.58	17.06	0.64
1600	18.79	36.67	-18.83	-13.53	3.78	0.95	27.90	17.41	0.61
1625	18.72	36.37	-18.58	-14.52	3.71	0.96	26.95	16.97	0.69
1650	18.64	36.35	-18.28	-15.55	3.76	0.97	27.45	17.24	0.71
1675	18.55	36.37	-18.02	-16.68	3.82	0.97	27.30	17.16	0.69
1700	18.47	36.25	-17.76	-17.98	3.82	0.98	26.82	16.89	0.70
1725	18.38	36.23	-17.55	-19.44	3.87	0.99	27.32	17.26	0.67
1750	18.28	36.19	-17.36	-21.13	3.90	0.99	26.65	16.77	0.72
1800	18.08	36.03	-16.92	-25.76	3.92	1.00	26.53	16.85	0.76
1850	17.87	36.24	-16.55	-31.51	4.11	1.01	26.63	16.79	0.76
1900	17.63	36.18	-16.27	-27.88	4.18	1.01	26.37	16.62	0.83
1925	17.51	36.12	-16.09	-25.15	4.19	1.01	26.40	16.68	0.81
1950	17.39	36.08	-15.93	-22.79	4.22	1.01	26.58	16.75	0.85
1975	17.26	36.09	-15.76	-21.04	4.26	1.01	26.17	16.47	0.89
2000	17.12	36.42	-15.63	-19.46	4.47	1.01	26.30	16.51	0.88
2025	16.96	36.22	-15.50	-18.17	4.43	1.00	26.13	16.57	0.88
2050	16.81	36.36	-15.33	-17.03	4.55	1.00	26.09	16.44	0.90
2075	16.65	36.34	-15.15	-16.06	4.59	1.00	25.72	16.19	0.92
2100	16.50	36.19	-14.97	-15.28	4.56	1.00	25.93	16.29	0.97
2125	16.35	36.35	-14.82	-14.62	4.69	0.99	25.72	16.13	0.94
2175	16.10	36.36	-14.49	-13.76	4.77	0.99	25.05	15.70	0.96
2200	16.04	36.21	-14.34	-13.51	4.71	0.99	25.78	16.17	1.02
2225	16.00	36.25	-14.26	-13.31	4.73	0.99	24.47	15.34	0.99
2250	15.98	36.11	-14.22	-13.05	4.65	0.98	25.20	15.75	0.96
2275	15.97	35.92	-14.18	-12.70	4.54	0.98	24.73	15.49	1.06
2300	15.94	35.87	-14.10	-12.27	4.49	0.98	24.73	15.44	1.00
2325	15.88	35.91	-14.10	-11.80	4.51	0.97	24.31	15.18	0.98
2350	15.82	36.07	-14.05	-11.33	4.58	0.96	25.04	15.58	1.00
2375	15.73	36.03	-14.01	-10.85	4.56	0.96	24.29	15.20	1.03
2450	15.41	36.19	-13.86	-9.51	4.64	0.93	24.30	15.05	1.10
2475	15.28	36.33	-13.85	-9.14	4.73	0.92	23.98	14.88	1.07
2500	15.16	36.42	-13.79	-8.75	4.77	0.91	24.14	14.89	1.04

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +3V$, $I_S = 41.95 \text{ mA}$ @ Temperature = -40°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)
1500	19.32	36.16	-20.58	-10.20	3.21	0.88	26.51	15.98	0.42
1525	19.28	35.96	-20.23	-10.84	3.20	0.90	26.45	16.00	0.47
1550	19.22	36.09	-19.97	-11.53	3.30	0.91	25.94	15.89	0.42
1575	19.15	35.80	-19.69	-12.29	3.26	0.92	26.22	15.87	0.46
1600	19.09	35.71	-19.42	-13.08	3.28	0.93	26.42	16.18	0.39
1625	19.01	35.58	-19.23	-13.99	3.29	0.94	25.60	15.82	0.46
1650	18.94	35.47	-18.90	-14.95	3.30	0.95	26.05	16.07	0.47
1675	18.85	35.49	-18.69	-16.01	3.35	0.96	25.87	16.03	0.47
1700	18.77	35.52	-18.46	-17.21	3.41	0.97	25.45	15.76	0.49
1725	18.69	35.40	-18.23	-18.57	3.41	0.98	25.88	16.11	0.58
1750	18.59	35.45	-18.04	-20.14	3.48	0.98	25.32	15.72	0.48
1800	18.40	35.28	-17.64	-24.36	3.50	0.99	25.20	15.77	0.51
1850	18.19	35.25	-17.27	-31.39	3.57	1.00	25.28	15.76	0.54
1900	17.96	35.32	-17.00	-31.22	3.68	1.00	25.06	15.59	0.61
1925	17.84	35.28	-16.84	-27.32	3.70	1.00	25.06	15.68	0.55
1950	17.73	35.29	-16.69	-24.37	3.74	1.00	25.20	15.73	0.62
1975	17.60	35.33	-16.52	-22.16	3.79	1.00	24.85	15.52	0.63
2000	17.46	35.53	-16.38	-20.30	3.92	1.00	24.99	15.55	0.62
2025	17.31	35.51	-16.26	-18.82	3.96	1.00	24.81	15.59	0.64
2050	17.16	35.51	-16.09	-17.56	4.00	1.00	24.77	15.48	0.61
2075	17.00	35.60	-15.92	-16.49	4.09	0.99	24.49	15.25	0.65
2100	16.83	35.46	-15.73	-15.54	4.07	0.99	24.65	15.32	0.67
2125	16.67	35.58	-15.55	-14.80	4.18	0.99	24.47	15.17	0.65
2175	16.40	35.70	-15.18	-13.81	4.31	0.98	23.88	14.81	0.63
2200	16.32	35.75	-15.00	-13.55	4.35	0.98	24.44	15.12	0.75
2225	16.29	35.51	-14.92	-13.36	4.24	0.98	23.33	14.41	0.68
2250	16.28	35.60	-14.86	-13.16	4.28	0.98	23.95	14.80	0.64
2275	16.28	35.28	-14.82	-12.87	4.11	0.97	23.50	14.59	0.73
2300	16.26	35.35	-14.77	-12.46	4.12	0.97	23.51	14.51	0.68
2325	16.21	35.38	-14.76	-12.03	4.13	0.97	23.18	14.25	0.67
2350	16.16	35.24	-14.69	-11.52	4.05	0.96	23.81	14.65	0.67
2375	16.08	35.47	-14.65	-11.05	4.15	0.95	23.12	14.28	0.71
2450	15.77	35.57	-14.45	-9.66	4.19	0.93	23.11	14.15	0.76
2475	15.63	35.82	-14.47	-9.28	4.33	0.92	22.77	13.93	0.76
2500	15.50	35.96	-14.39	-8.88	4.40	0.91	23.01	13.96	0.75

MMIC Amplifier

PMA2-252LNA+

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_S = +2.7V$, $I_S = 36.04 \text{ mA}$ @ Temperature = -40°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)
1500	18.80	35.85	-16.79	-10.40	3.27	0.90	25.31	14.61	0.39
1525	18.75	35.62	-16.51	-11.06	3.25	0.91	25.28	14.64	0.43
1550	18.69	35.50	-16.29	-11.79	3.26	0.93	24.88	14.59	0.42
1575	18.62	35.53	-16.07	-12.57	3.33	0.94	25.15	14.56	0.43
1600	18.55	35.40	-15.88	-13.39	3.33	0.95	25.31	14.82	0.38
1625	18.47	35.30	-15.75	-14.35	3.35	0.96	24.61	14.54	0.44
1650	18.39	35.09	-15.52	-15.37	3.32	0.97	25.01	14.76	0.49
1675	18.31	35.14	-15.39	-16.50	3.39	0.98	24.87	14.71	0.44
1700	18.22	35.00	-15.21	-17.81	3.38	0.99	24.52	14.47	0.49
1725	18.13	35.05	-15.06	-19.26	3.44	0.99	24.88	14.79	0.42
1750	18.03	35.15	-14.93	-20.97	3.52	1.00	24.45	14.45	0.48
1800	17.83	35.00	-14.64	-25.77	3.55	1.01	24.31	14.48	0.48
1850	17.62	35.07	-14.41	-33.54	3.66	1.02	24.38	14.45	0.51
1900	17.38	34.93	-14.24	-28.88	3.68	1.02	24.18	14.34	0.57
1925	17.27	34.91	-14.12	-25.49	3.71	1.02	24.16	14.34	0.56
1950	17.15	35.03	-14.04	-22.96	3.79	1.02	24.31	14.40	0.56
1975	17.02	34.94	-13.91	-21.06	3.79	1.02	24.00	14.15	0.62
2000	16.88	35.12	-13.83	-19.35	3.91	1.02	24.09	14.17	0.63
2025	16.72	35.17	-13.76	-18.01	3.98	1.02	23.94	14.23	0.61
2050	16.57	35.11	-13.65	-16.86	3.99	1.01	23.85	14.08	0.61
2075	16.41	35.18	-13.53	-15.85	4.07	1.01	23.59	13.85	0.64
2100	16.24	35.32	-13.40	-14.98	4.18	1.01	23.75	13.94	0.69
2125	16.08	35.30	-13.27	-14.28	4.21	1.00	23.54	13.75	0.67
2175	15.80	35.41	-13.00	-13.33	4.34	1.00	23.03	13.39	0.64
2200	15.73	35.35	-12.90	-13.07	4.33	1.00	23.54	13.75	0.72
2225	15.69	35.43	-12.81	-12.88	4.37	1.00	22.51	13.06	0.69
2250	15.68	35.18	-12.77	-12.68	4.24	0.99	23.11	13.37	0.66
2275	15.67	35.15	-12.76	-12.38	4.21	0.99	22.71	13.19	0.72
2300	15.66	35.07	-12.73	-11.99	4.15	0.99	22.73	13.10	0.68
2325	15.60	35.14	-12.72	-11.55	4.17	0.98	22.37	12.85	0.66
2350	15.54	35.22	-12.68	-11.08	4.20	0.97	22.99	13.15	0.72
2375	15.46	35.16	-12.68	-10.61	4.16	0.96	22.31	12.83	0.68
2450	15.14	35.41	-12.58	-9.27	4.27	0.94	22.31	12.59	0.76
2475	15.00	35.69	-12.60	-8.91	4.43	0.93	21.97	12.44	0.69
2500	14.88	35.82	-12.53	-8.50	4.48	0.91	22.19	12.35	0.75



Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_s = +3.3V$, $I_s = 46.43 \text{ mA}$ @ Temperature = -40°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)
1500	19.53	36.77	-22.78	-10.03	3.35	0.88	27.81	16.97	0.42
1525	19.48	36.68	-22.54	-10.65	3.38	0.89	27.75	16.99	0.45
1550	19.43	36.65	-22.29	-11.34	3.43	0.91	27.17	16.85	0.43
1575	19.37	36.57	-22.04	-12.07	3.46	0.92	27.48	16.83	0.46
1600	19.30	36.46	-21.74	-12.84	3.48	0.93	27.68	17.14	0.38
1625	19.23	36.34	-21.52	-13.72	3.50	0.94	26.81	16.75	0.48
1650	19.16	36.09	-21.11	-14.68	3.45	0.95	27.27	17.04	0.49
1675	19.08	36.06	-20.87	-15.69	3.49	0.96	27.12	16.99	0.46
1700	19.00	36.10	-20.55	-16.86	3.56	0.97	26.62	16.69	0.49
1725	18.92	35.94	-20.27	-18.15	3.54	0.97	27.11	17.04	0.44
1750	18.82	36.00	-20.01	-19.59	3.61	0.98	26.51	16.61	0.45
1800	18.63	35.87	-19.47	-23.45	3.66	0.99	26.35	16.64	0.49
1850	18.42	35.92	-19.03	-29.21	3.77	0.99	26.44	16.65	0.51
1900	18.19	35.91	-18.62	-30.46	3.85	1.00	26.22	16.51	0.59
1925	18.08	35.91	-18.41	-27.39	3.89	1.00	26.26	16.57	0.53
1950	17.96	35.88	-18.20	-24.58	3.92	1.00	26.42	16.64	0.58
1975	17.84	36.06	-18.00	-22.43	4.04	1.00	26.03	16.39	0.61
2000	17.70	36.02	-17.80	-20.54	4.06	1.00	26.19	16.45	0.59
2025	17.55	35.96	-17.62	-19.08	4.09	0.99	26.01	16.47	0.63
2050	17.40	36.05	-17.39	-17.76	4.17	0.99	25.95	16.37	0.64
2075	17.23	36.12	-17.19	-16.69	4.26	0.99	25.65	16.14	0.65
2100	17.07	36.12	-16.95	-15.75	4.31	0.99	25.82	16.21	0.65
2125	16.91	36.22	-16.73	-15.00	4.41	0.98	25.63	16.06	0.62
2175	16.63	36.13	-16.25	-14.00	4.45	0.98	24.98	15.67	0.63
2200	16.56	36.23	-16.09	-13.73	4.52	0.98	25.62	16.03	0.73
2225	16.53	36.14	-15.95	-13.55	4.48	0.98	24.35	15.29	0.66
2250	16.52	35.79	-15.88	-13.35	4.30	0.97	25.03	15.69	0.61
2275	16.52	35.81	-15.83	-13.06	4.29	0.97	24.56	15.46	0.72
2300	16.50	35.91	-15.73	-12.65	4.32	0.97	24.54	15.40	0.63
2325	16.45	35.88	-15.70	-12.19	4.30	0.96	24.17	15.17	0.64
2350	16.40	35.77	-15.59	-11.69	4.23	0.96	24.88	15.55	0.68
2375	16.32	35.95	-15.54	-11.19	4.31	0.95	24.12	15.19	0.73
2450	16.01	36.06	-15.27	-9.77	4.36	0.92	24.13	15.07	0.84
2475	15.87	36.17	-15.28	-9.39	4.44	0.91	23.79	14.83	0.72
2500	15.75	36.51	-15.14	-8.99	4.61	0.90	24.01	14.90	0.69

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_s = +3V$, $I_s = 40.58 \text{ mA}$ @ Temperature = $+85^\circ\text{C}$

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)
1500	18.41	36.75	-16.38	-10.74	3.79	0.91	26.97	16.17	0.77
1525	18.35	36.69	-16.15	-11.46	3.83	0.93	26.91	16.19	0.81
1550	18.29	36.67	-15.96	-12.26	3.89	0.94	26.41	16.08	0.79
1575	18.22	36.43	-15.78	-13.09	3.85	0.95	26.47	15.99	0.81
1600	18.14	36.38	-15.59	-13.98	3.90	0.97	26.87	16.36	0.78
1625	18.06	36.28	-15.45	-14.96	3.91	0.98	25.90	15.94	0.79
1650	17.98	36.26	-15.24	-16.05	3.96	0.98	26.36	16.21	0.89
1675	17.89	36.31	-15.10	-17.20	4.04	0.99	26.27	16.14	0.87
1700	17.80	36.19	-14.93	-18.56	4.04	1.00	25.78	15.89	0.90
1725	17.71	36.22	-14.76	-20.03	4.10	1.01	26.23	16.21	0.84
1750	17.61	36.15	-14.63	-21.72	4.12	1.01	25.65	15.79	0.89
1800	17.40	36.07	-14.36	-25.93	4.18	1.02	25.56	15.85	0.96
1850	17.18	36.23	-14.09	-29.20	4.36	1.03	25.58	15.78	0.95
1900	16.94	36.15	-13.88	-25.99	4.41	1.03	25.31	15.60	1.04
1925	16.82	36.26	-13.75	-23.93	4.51	1.03	25.34	15.65	1.03
1950	16.70	36.35	-13.65	-22.12	4.60	1.03	25.56	15.77	1.06
1975	16.57	36.24	-13.52	-20.56	4.59	1.03	25.10	15.46	1.09
2000	16.43	36.21	-13.41	-19.13	4.63	1.03	25.19	15.48	1.13
2025	16.28	36.17	-13.30	-18.02	4.66	1.03	25.10	15.52	1.15
2050	16.13	36.28	-13.18	-16.98	4.77	1.02	24.97	15.39	1.15
2075	15.98	36.45	-13.06	-16.10	4.91	1.02	24.65	15.14	1.15
2100	15.83	36.50	-12.91	-15.38	4.99	1.02	24.84	15.23	1.16
2125	15.69	36.38	-12.81	-14.77	4.97	1.02	24.64	15.08	1.18
2175	15.46	36.36	-12.55	-13.98	5.04	1.01	23.97	14.67	1.20
2200	15.40	36.32	-12.46	-13.69	5.02	1.01	24.73	15.12	1.26
2225	15.36	36.40	-12.39	-13.45	5.07	1.01	23.48	14.30	1.23
2250	15.34	36.28	-12.34	-13.14	4.99	1.01	24.16	14.68	1.21
2275	15.31	36.07	-12.31	-12.77	4.86	1.00	23.70	14.45	1.35
2300	15.28	36.09	-12.26	-12.31	4.86	1.00	23.70	14.40	1.21
2325	15.21	36.02	-12.24	-11.83	4.81	0.99	23.30	14.11	1.24
2350	15.14	35.98	-12.20	-11.35	4.78	0.98	23.96	14.47	1.29
2375	15.05	36.03	-12.17	-10.87	4.81	0.98	23.22	14.09	1.31
2450	14.73	36.20	-12.06	-9.53	4.90	0.95	23.21	13.94	1.36
2475	14.58	36.59	-12.10	-9.23	5.17	0.94	22.95	13.76	1.37
2500	14.48	36.34	-11.98	-8.73	4.98	0.93	23.02	13.72	1.39

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_s = +2.7V$, $I_s = 35.35 \text{ mA}$ @ Temperature = $+85^\circ\text{C}$

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)
1500	18.10	35.99	-14.54	-11.30	3.61	0.93	26.12	15.02	0.79
1525	18.04	35.86	-14.35	-12.07	3.62	0.95	26.07	15.04	0.82
1550	17.97	35.98	-14.20	-12.96	3.73	0.96	25.60	14.95	0.82
1575	17.90	35.92	-14.07	-13.87	3.76	0.97	25.66	14.88	0.87
1600	17.82	35.81	-13.92	-14.90	3.78	0.98	26.06	15.24	0.82
1625	17.73	35.60	-13.81	-16.01	3.74	0.99	25.11	14.86	0.91
1650	17.64	35.64	-13.64	-17.25	3.81	1.00	25.57	15.09	0.89
1675	17.55	35.59	-13.53	-18.62	3.84	1.01	25.44	15.03	0.91
1700	17.45	35.78	-13.41	-20.24	3.97	1.02	25.02	14.81	0.93
1725	17.36	35.44	-13.29	-22.15	3.87	1.02	25.44	15.13	0.89
1750	17.25	35.57	-13.18	-24.39	3.98	1.03	24.86	14.72	0.95
1800	17.04	35.54	-12.96	-30.11	4.05	1.04	24.77	14.79	0.96
1850	16.81	35.52	-12.77	-29.39	4.13	1.04	24.81	14.71	0.98
1900	16.56	35.47	-12.60	-23.96	4.19	1.04	24.48	14.55	1.09
1925	16.44	35.47	-12.51	-21.98	4.23	1.04	24.51	14.59	1.06
1950	16.31	35.58	-12.42	-20.35	4.33	1.04	24.69	14.69	1.10
1975	16.18	35.34	-12.31	-18.99	4.25	1.04	24.26	14.41	1.14
2000	16.03	35.66	-12.24	-17.74	4.45	1.04	24.31	14.44	1.17
2025	15.88	35.55	-12.17	-16.73	4.45	1.03	24.20	14.47	1.15
2050	15.73	35.73	-12.06	-15.79	4.58	1.03	24.09	14.34	1.15
2075	15.57	35.83	-11.97	-15.02	4.68	1.03	23.78	14.10	1.17
2100	15.42	35.79	-11.85	-14.36	4.70	1.03	23.94	14.17	1.22
2125	15.28	35.82	-11.76	-13.81	4.76	1.02	23.74	14.02	1.22
2175	15.05	35.90	-11.55	-13.04	4.87	1.02	23.11	13.61	1.21
2200	14.98	35.83	-11.48	-12.78	4.85	1.02	23.81	14.03	1.35
2225	14.94	35.86	-11.43	-12.54	4.86	1.01	22.65	13.25	1.27
2250	14.91	35.64	-11.39	-12.23	4.74	1.01	23.32	13.62	1.23
2275	14.88	35.56	-11.38	-11.88	4.68	1.01	22.87	13.37	1.38
2300	14.83	35.67	-11.34	-11.48	4.72	1.00	22.84	13.34	1.31
2325	14.76	35.46	-11.34	-11.04	4.61	0.99	22.45	13.03	1.26
2350	14.69	35.74	-11.32	-10.61	4.75	0.99	23.04	13.36	1.32
2375	14.60	35.57	-11.29	-10.15	4.65	0.98	22.35	13.01	1.34
2450	14.25	35.80	-11.23	-8.92	4.77	0.95	22.29	12.79	1.42
2475	14.09	36.17	-11.28	-8.65	5.02	0.94	22.05	12.63	1.44
2500	13.99	36.08	-11.18	-8.19	4.92	0.92	22.10	12.60	1.45

Typical Performance Data

Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Isolation = -S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: $V_s = +3.3V$, $I_s = 45.53 \text{ mA}$ @ Temperature = $+85^\circ\text{C}$

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)
1500	18.63	37.39	-18.16	-10.39	3.97	0.90	27.98	17.11	0.75
1525	18.59	37.56	-17.86	-11.07	4.11	0.92	27.92	17.11	0.82
1550	18.52	37.30	-17.65	-11.82	4.07	0.93	27.38	17.01	0.80
1575	18.46	37.27	-17.43	-12.59	4.13	0.94	27.51	16.88	0.82
1600	18.39	37.18	-17.19	-13.42	4.15	0.95	27.93	17.30	0.76
1625	18.31	36.94	-17.01	-14.33	4.11	0.96	26.87	16.85	0.84
1650	18.23	36.96	-16.74	-15.30	4.18	0.97	27.42	17.10	0.87
1675	18.15	36.87	-16.56	-16.35	4.20	0.98	27.27	17.03	0.89
1700	18.06	36.71	-16.34	-17.54	4.18	0.99	26.77	16.78	0.89
1725	17.97	36.78	-16.17	-18.84	4.26	1.00	27.27	17.09	0.96
1750	17.87	36.74	-15.99	-20.28	4.30	1.00	26.66	16.64	0.88
1800	17.67	36.84	-15.62	-23.74	4.46	1.01	26.55	16.71	0.92
1850	17.46	36.76	-15.31	-27.21	4.52	1.02	26.62	16.65	0.94
1900	17.22	36.77	-15.05	-26.59	4.63	1.02	26.35	16.45	1.01
1925	17.11	36.62	-14.89	-24.90	4.60	1.02	26.41	16.49	1.02
1950	16.98	36.65	-14.75	-23.09	4.67	1.02	26.61	16.63	1.05
1975	16.86	36.78	-14.59	-21.58	4.78	1.02	26.14	16.31	1.09
2000	16.72	36.71	-14.45	-20.06	4.80	1.02	26.22	16.34	1.14
2025	16.57	36.72	-14.33	-18.89	4.87	1.02	26.11	16.40	1.11
2050	16.42	36.92	-14.19	-17.77	5.04	1.02	26.04	16.29	1.13
2075	16.27	36.91	-14.03	-16.86	5.08	1.01	25.71	16.01	1.15
2100	16.12	36.80	-13.87	-16.08	5.07	1.01	25.90	16.14	1.16
2125	15.98	36.97	-13.72	-15.46	5.23	1.01	25.69	15.98	1.18
2175	15.77	36.87	-13.43	-14.64	5.25	1.01	24.96	15.54	1.13
2200	15.71	36.67	-13.32	-14.34	5.14	1.01	25.81	16.03	1.28
2225	15.67	36.85	-13.22	-14.10	5.25	1.01	24.43	15.17	1.21
2250	15.65	36.71	-13.16	-13.77	5.15	1.00	25.20	15.60	1.17
2275	15.63	36.61	-13.11	-13.38	5.09	1.00	24.69	15.34	1.31
2300	15.60	36.53	-13.03	-12.89	5.02	1.00	24.69	15.27	1.24
2325	15.53	36.51	-13.00	-12.39	5.01	0.99	24.27	15.00	1.25
2350	15.47	36.58	-12.94	-11.87	5.03	0.98	24.99	15.42	1.27
2375	15.39	36.67	-12.90	-11.34	5.08	0.98	24.23	14.98	1.28
2450	15.07	36.79	-12.75	-9.94	5.16	0.95	24.23	14.87	1.36
2475	14.92	36.89	-12.81	-9.60	5.27	0.94	23.93	14.71	1.38
2500	14.83	36.83	-12.64	-9.10	5.19	0.93	24.02	14.66	1.38