

MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 3.00V, Id = 56mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.25	30.61	6.29	13.66	0.89	0.83	31.22	14.88	0.33
100	25.46	29.55	7.94	18.00	0.97	0.76	31.60	14.91	0.46
200	24.36	28.43	9.07	21.23	1.00	0.74	31.79	16.77	0.49
400	21.89	26.16	10.62	24.05	1.04	0.72	32.65	18.08	0.68
500	20.72	25.06	11.23	24.71	1.05	0.72	32.87	18.19	0.68
600	19.65	24.08	11.72	24.87	1.06	0.72	33.00	18.46	0.69
700	18.67	23.14	12.15	24.91	1.07	0.71	33.15	18.50	0.67
800	17.77	22.28	12.50	24.80	1.08	0.71	33.22	18.57	0.60
900	16.94	21.50	12.81	24.56	1.08	0.71	33.43	18.69	0.58
1000	16.17	20.73	13.10	24.28	1.08	0.71	33.56	18.87	0.60
1100	15.47	20.06	13.33	24.15	1.09	0.71	33.57	18.90	0.61
1200	14.82	19.40	13.55	23.83	1.09	0.71	33.72	18.90	0.63
1300	14.21	18.80	13.73	23.60	1.09	0.70	33.95	18.97	0.65
1400	13.65	18.26	13.86	23.53	1.09	0.71	33.97	19.07	0.67
1500	13.12	17.71	13.95	23.40	1.09	0.70	34.12	19.17	0.69
1600	12.63	17.22	13.99	23.42	1.09	0.70	34.07	19.35	0.71
1700	12.16	16.74	14.01	23.54	1.09	0.70	34.28	19.41	0.73
1800	11.72	16.28	13.96	23.88	1.09	0.70	34.38	19.49	0.74
1900	11.30	15.85	13.90	24.27	1.09	0.70	34.36	19.49	0.75
2000	10.92	15.44	13.79	24.59	1.09	0.70	34.30	19.59	0.77
2100	10.54	15.06	13.67	25.10	1.09	0.70	34.38	19.70	0.78
2200	10.19	14.69	13.53	25.71	1.09	0.70	34.20	19.84	0.81
2300	9.85	14.33	13.36	26.30	1.09	0.70	34.24	19.84	0.85
2400	9.53	13.98	13.20	26.87	1.08	0.70	33.96	19.84	0.90
2500	9.22	13.65	13.03	27.39	1.08	0.70	33.86	19.85	0.97
2600	8.92	13.34	12.88	27.78	1.08	0.70	33.89	19.93	1.04
2700	8.64	13.04	12.71	27.72	1.08	0.70	33.86	19.97	1.13
2800	8.37	12.76	12.60	27.50	1.08	0.70	33.61	20.08	1.19
2900	8.10	12.47	12.49	26.90	1.07	0.70	33.30	20.07	1.22
3000	7.85	12.22	12.43	26.19	1.07	0.70	33.31	20.03	1.24
3200	7.38	11.69	12.36	24.61	1.07	0.69	33.35	20.22	1.21
3300	7.16	11.45	12.34	24.07	1.07	0.69	33.14	20.39	1.21
3400	6.94	11.21	12.37	23.36	1.07	0.69	33.18	20.37	1.23
3500	6.73	10.99	12.42	22.78	1.07	0.68	32.98	20.39	1.26
3600	6.53	10.76	12.51	22.20	1.06	0.68	32.92	20.32	1.30
3700	6.35	10.55	12.60	21.57	1.06	0.68	32.92	20.43	1.35
3800	6.16	10.33	12.73	21.05	1.06	0.67	32.97	20.52	1.38
4000	5.81	9.96	12.95	20.19	1.06	0.66	32.94	20.63	1.47



MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 2.70V, Id = 50mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.04	30.66	6.09	13.65	0.89	0.86	30.18	14.88	0.36
100	25.25	29.38	7.68	17.61	0.96	0.78	30.29	14.91	0.49
200	24.16	28.24	8.78	20.55	0.99	0.75	30.53	16.77	0.51
400	21.70	25.89	10.29	23.38	1.02	0.73	30.98	18.08	0.69
500	20.53	24.80	10.88	24.33	1.04	0.72	31.22	18.19	0.69
600	19.47	23.80	11.34	24.94	1.05	0.72	31.43	18.46	0.72
700	18.49	22.87	11.76	25.49	1.06	0.72	31.58	18.50	0.68
800	17.59	22.01	12.09	25.75	1.07	0.71	31.68	18.57	0.62
900	16.76	21.22	12.41	25.88	1.07	0.71	31.81	18.69	0.59
1000	16.00	20.49	12.67	25.98	1.08	0.71	31.92	18.87	0.62
1100	15.29	19.80	12.89	25.98	1.08	0.71	32.00	18.90	0.63
1200	14.64	19.15	13.09	25.86	1.08	0.71	32.10	18.90	0.65
1300	14.04	18.57	13.26	25.78	1.09	0.71	32.18	18.97	0.67
1400	13.48	18.01	13.40	25.87	1.09	0.70	32.29	19.07	0.70
1500	12.95	17.46	13.47	25.81	1.09	0.70	32.45	19.17	0.71
1600	12.46	16.97	13.51	26.03	1.09	0.70	32.56	19.35	0.73
1700	11.99	16.49	13.51	26.17	1.09	0.70	32.67	19.41	0.74
1800	11.55	16.05	13.47	26.70	1.09	0.70	32.70	19.49	0.75
1900	11.14	15.61	13.41	27.17	1.09	0.70	32.78	19.49	0.76
2000	10.75	15.21	13.30	27.56	1.09	0.70	32.79	19.59	0.78
2100	10.38	14.82	13.19	28.19	1.08	0.70	32.81	19.70	0.79
2200	10.02	14.45	13.05	28.77	1.08	0.70	32.77	19.84	0.81
2300	9.68	14.10	12.88	29.08	1.08	0.70	32.68	19.84	0.85
2400	9.36	13.76	12.74	29.28	1.08	0.70	32.56	19.84	0.91
2500	9.05	13.43	12.57	29.14	1.08	0.70	32.56	19.85	0.98
2600	8.76	13.12	12.43	28.61	1.08	0.69	32.46	19.93	1.06
2700	8.48	12.83	12.27	27.84	1.07	0.69	32.40	19.97	1.13
2800	8.20	12.54	12.18	27.01	1.07	0.69	32.30	20.08	1.20
2900	7.94	12.26	12.06	26.06	1.07	0.69	32.22	20.07	1.23
3000	7.69	12.00	12.02	25.16	1.07	0.69	32.15	20.03	1.25
3200	7.22	11.49	11.94	23.61	1.07	0.69	31.95	20.22	1.25
3300	7.00	11.25	11.94	23.07	1.07	0.68	31.94	20.39	1.24
3400	6.78	11.02	11.97	22.42	1.06	0.68	31.86	20.37	1.28
3500	6.58	10.79	12.02	21.97	1.06	0.68	31.81	20.39	1.30
3600	6.38	10.57	12.11	21.46	1.06	0.67	31.77	20.32	1.34
3700	6.19	10.36	12.20	20.95	1.06	0.67	31.79	20.43	1.37
3800	6.01	10.15	12.34	20.59	1.06	0.67	31.75	20.52	1.41
4000	5.66	9.75	12.58	19.93	1.06	0.66	31.71	20.63	1.44



MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 3.30V, Id = 62mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.43	30.18	6.42	13.96	0.88	0.77	32.38	15.50	0.35
100	25.63	29.65	8.16	18.32	0.97	0.75	32.63	16.02	0.48
200	24.52	28.59	9.33	21.71	1.01	0.72	33.19	17.44	0.51
400	22.04	26.34	10.93	24.06	1.05	0.72	34.20	18.61	0.69
500	20.87	25.31	11.54	24.28	1.06	0.72	34.64	18.83	0.69
600	19.80	24.30	12.05	23.95	1.07	0.72	34.96	18.99	0.71
700	18.82	23.38	12.49	23.65	1.08	0.71	35.26	19.16	0.67
800	17.91	22.50	12.84	23.28	1.08	0.71	35.42	19.18	0.60
900	17.08	21.71	13.17	22.92	1.09	0.71	35.68	19.30	0.59
1000	16.32	20.97	13.46	22.52	1.09	0.71	35.84	19.45	0.63
1100	15.61	20.29	13.71	22.27	1.10	0.71	36.03	19.50	0.64
1200	14.95	19.64	13.93	21.93	1.10	0.71	36.19	19.50	0.66
1300	14.35	19.03	14.12	21.73	1.10	0.71	36.37	19.55	0.68
1400	13.78	18.46	14.26	21.55	1.10	0.71	36.56	19.63	0.71
1500	13.25	17.93	14.34	21.41	1.10	0.71	36.70	19.69	0.72
1600	12.76	17.44	14.39	21.44	1.10	0.70	36.73	19.83	0.75
1700	12.29	16.95	14.42	21.45	1.10	0.70	36.77	19.93	0.76
1800	11.85	16.50	14.37	21.73	1.10	0.70	36.95	20.02	0.76
1900	11.44	16.06	14.30	21.98	1.09	0.70	37.05	20.04	0.77
2000	11.05	15.66	14.18	22.28	1.09	0.70	37.00	20.09	0.78
2100	10.67	15.26	14.07	22.67	1.09	0.70	37.02	20.21	0.79
2200	10.31	14.90	13.92	23.21	1.09	0.70	37.18	20.30	0.81
2300	9.98	14.53	13.74	23.74	1.09	0.70	37.24	20.24	0.85
2400	9.66	14.19	13.58	24.26	1.09	0.70	37.23	20.23	0.90
2500	9.35	13.86	13.38	24.79	1.08	0.70	37.30	20.24	0.97
2600	9.05	13.55	13.22	25.32	1.08	0.70	37.32	20.33	1.04
2700	8.77	13.24	13.06	25.63	1.08	0.70	37.17	20.37	1.11
2800	8.49	12.94	12.94	25.92	1.08	0.70	36.92	20.41	1.18
2900	8.23	12.67	12.82	25.85	1.08	0.70	36.84	20.44	1.21
3000	7.98	12.40	12.77	25.51	1.08	0.70	36.58	20.37	1.23
3200	7.51	11.89	12.68	24.48	1.07	0.70	36.24	20.52	1.24
3300	7.28	11.64	12.65	24.02	1.07	0.70	36.24	20.61	1.23
3400	7.07	11.40	12.69	23.38	1.07	0.69	36.16	20.57	1.27
3500	6.86	11.17	12.73	22.84	1.07	0.69	36.15	20.59	1.31
3600	6.66	10.94	12.81	22.25	1.07	0.69	36.07	20.58	1.35
3700	6.47	10.73	12.90	21.59	1.06	0.68	36.09	20.81	1.37
3800	6.28	10.52	13.05	21.08	1.06	0.68	36.05	20.88	1.41
4000	5.94	10.13	13.26	20.20	1.06	0.67	36.00	20.96	1.43



MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5V, Id = 91mA @Temperature = +25°C

FREQ. (MHz)	Gain (dB)	Isolation (dB)	Input Return Loss (dB)	Output Return Loss (dB)	Stability		IP-3 Output (dBm)	1dB Comp. Output (dBm)	Noise Figure (dB)
					K	Measure			
50	26.90	30.89	6.94	13.94	0.91	0.77	35.84	19.28	0.40
100	26.07	29.98	8.81	19.12	0.99	0.71	36.13	19.53	0.51
200	24.94	29.04	10.05	22.43	1.03	0.70	36.86	20.45	0.53
400	22.41	26.94	11.72	21.92	1.08	0.71	38.04	21.16	0.71
500	21.22	25.91	12.36	21.22	1.09	0.71	38.45	21.22	0.71
600	20.14	24.92	12.87	20.39	1.10	0.71	39.04	21.48	0.72
700	19.14	24.01	13.34	19.76	1.10	0.72	39.74	21.54	0.70
800	18.23	23.12	13.70	19.27	1.11	0.72	39.96	21.57	0.63
900	17.39	22.31	14.06	18.85	1.11	0.72	40.06	21.74	0.60
1000	16.62	21.57	14.35	18.47	1.11	0.72	40.73	21.65	0.63
1100	15.91	20.89	14.61	18.21	1.11	0.72	41.23	21.73	0.64
1200	15.25	20.22	14.85	17.93	1.11	0.71	41.10	21.79	0.66
1300	14.64	19.63	15.05	17.74	1.11	0.71	41.49	21.84	0.68
1400	14.07	19.07	15.20	17.58	1.11	0.71	41.84	21.95	0.70
1500	13.54	18.53	15.29	17.47	1.11	0.71	41.33	22.03	0.72
1600	13.05	18.01	15.35	17.43	1.11	0.71	41.67	22.04	0.75
1700	12.57	17.54	15.37	17.43	1.11	0.71	42.67	22.09	0.77
1800	12.13	17.08	15.31	17.58	1.11	0.71	42.46	22.25	0.78
1900	11.71	16.65	15.23	17.74	1.11	0.71	42.08	22.30	0.79
2000	11.32	16.23	15.11	17.91	1.10	0.71	41.59	22.33	0.81
2100	10.95	15.83	14.97	18.14	1.10	0.71	42.68	22.41	0.82
2200	10.59	15.46	14.80	18.44	1.10	0.71	43.43	22.45	0.84
2300	10.25	15.09	14.60	18.77	1.10	0.71	43.07	22.51	0.89
2400	9.93	14.74	14.42	19.12	1.10	0.72	42.91	22.55	0.94
2500	9.62	14.42	14.22	19.51	1.09	0.72	42.86	22.67	1.01
2600	9.33	14.08	14.04	19.90	1.09	0.72	42.61	22.74	1.09
2700	9.05	13.78	13.85	20.21	1.09	0.72	42.82	22.84	1.17
2800	8.77	13.47	13.71	20.59	1.09	0.72	43.13	22.80	1.24
2900	8.51	13.19	13.56	20.84	1.08	0.72	43.63	22.53	1.28
3000	8.26	12.91	13.51	20.97	1.08	0.72	44.18	22.27	1.30
3200	7.79	12.39	13.39	20.94	1.08	0.71	43.58	22.54	1.29
3300	7.56	12.13	13.36	20.87	1.08	0.71	43.58	22.81	1.30
3400	7.35	11.89	13.38	20.64	1.08	0.71	43.46	22.93	1.33
3500	7.14	11.65	13.43	20.34	1.07	0.70	44.65	22.98	1.36
3600	6.93	11.41	13.52	20.10	1.07	0.70	44.62	22.99	1.40
3700	6.75	11.20	13.60	19.68	1.07	0.70	44.62	23.04	1.45
3800	6.55	10.98	13.75	19.33	1.07	0.69	43.96	23.01	1.49
4000	6.20	10.58	13.98	18.65	1.07	0.68	44.30	22.84	1.57

MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 4.75V, Id = 85mA @Temperature = +25°C

FREQ. (MHz)	Gain (dB)	Isolation (dB)	Input Return Loss (dB)	Output Return Loss (dB)	Stability		IP-3 Output (dBm)	1dB Comp. Output (dBm)	Noise Figure (dB)
					K	Measure			
50	26.87	30.54	6.92	13.76	0.90	0.74	36.67	18.77	0.39
100	26.04	29.93	8.76	19.08	0.99	0.71	36.84	19.06	0.50
200	24.90	28.98	10.01	22.49	1.03	0.70	37.21	20.09	0.52
400	22.37	26.91	11.66	22.21	1.08	0.71	37.70	20.88	0.71
500	21.19	25.84	12.30	21.49	1.09	0.71	38.31	20.98	0.70
600	20.11	24.87	12.82	20.68	1.10	0.71	38.92	21.15	0.73
700	19.12	23.95	13.29	20.07	1.10	0.72	39.36	21.26	0.70
800	18.21	23.10	13.65	19.56	1.11	0.72	39.79	21.33	0.63
900	17.37	22.29	14.00	19.12	1.11	0.72	40.27	21.38	0.60
1000	16.60	21.54	14.30	18.75	1.11	0.72	40.57	21.38	0.64
1100	15.89	20.84	14.56	18.48	1.11	0.72	40.86	21.43	0.64
1200	15.23	20.19	14.79	18.19	1.11	0.71	40.95	21.48	0.66
1300	14.62	19.59	15.00	17.98	1.11	0.71	41.21	21.52	0.68
1400	14.05	19.01	15.13	17.84	1.11	0.71	41.48	21.67	0.71
1500	13.52	18.50	15.23	17.70	1.11	0.71	41.51	21.73	0.72
1600	13.02	17.98	15.28	17.67	1.11	0.71	41.80	21.75	0.75
1700	12.55	17.49	15.29	17.68	1.11	0.71	42.03	21.79	0.77
1800	12.11	17.04	15.25	17.82	1.11	0.71	42.17	21.88	0.78
1900	11.69	16.61	15.17	17.98	1.11	0.71	42.26	22.02	0.79
2000	11.30	16.19	15.05	18.15	1.10	0.71	42.41	22.07	0.81
2100	10.92	15.80	14.90	18.41	1.10	0.71	42.61	22.14	0.83
2200	10.57	15.42	14.74	18.73	1.10	0.71	42.90	22.18	0.85
2300	10.23	15.05	14.54	19.08	1.10	0.71	43.05	22.26	0.88
2400	9.91	14.71	14.37	19.42	1.10	0.72	43.27	22.32	0.94
2500	9.60	14.37	14.16	19.78	1.09	0.72	43.24	22.40	1.01
2600	9.31	14.04	13.97	20.22	1.09	0.72	43.24	22.47	1.09
2700	9.03	13.74	13.79	20.55	1.09	0.72	43.26	22.50	1.17
2800	8.75	13.44	13.66	20.94	1.09	0.72	42.95	22.45	1.23
2900	8.49	13.15	13.51	21.19	1.08	0.72	43.24	22.28	1.26
3000	8.24	12.88	13.46	21.32	1.08	0.72	43.63	22.00	1.28
3200	7.76	12.35	13.35	21.24	1.08	0.71	44.14	22.27	1.28
3300	7.54	12.10	13.31	21.12	1.08	0.71	44.14	22.54	1.28
3400	7.32	11.85	13.33	20.85	1.07	0.71	44.37	22.67	1.32
3500	7.12	11.62	13.37	20.55	1.07	0.70	44.13	22.66	1.36
3600	6.91	11.38	13.47	20.27	1.07	0.70	44.19	22.70	1.40
3700	6.72	11.17	13.56	19.85	1.07	0.70	44.09	22.77	1.43
3800	6.53	10.95	13.70	19.49	1.07	0.69	44.02	22.82	1.47
4000	6.19	10.55	13.92	18.81	1.07	0.68	44.05	22.68	1.54

Typical Performance Data

Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5.25V, Id = 93mA @Temperature = +25°C

FREQ. (MHz)	Gain (dB)	Isolation (dB)	Input Return Loss (dB)	Output Return Loss (dB)	Stability		IP-3 Output (dBm)	1dB Comp. Output (dBm)	Noise Figure (dB)
					K	Measure			
50	26.92	30.83	6.98	14.23	0.91	0.77	35.70	19.56	0.41
100	26.09	29.93	8.83	19.09	0.99	0.71	35.98	19.76	0.51
200	24.95	29.09	10.06	22.25	1.04	0.70	36.74	20.62	0.53
400	22.42	27.00	11.73	21.70	1.08	0.71	37.99	21.20	0.71
500	21.23	25.94	12.38	20.96	1.09	0.71	38.64	21.32	0.71
600	20.15	24.95	12.90	20.15	1.10	0.71	39.23	21.48	0.73
700	19.15	24.01	13.37	19.55	1.10	0.72	39.68	21.58	0.69
800	18.24	23.16	13.74	19.07	1.11	0.72	40.07	21.60	0.63
900	17.40	22.35	14.09	18.64	1.11	0.72	40.45	21.76	0.62
1000	16.63	21.63	14.38	18.28	1.11	0.72	40.79	21.68	0.65
1100	15.92	20.92	14.65	18.02	1.11	0.72	40.92	21.72	0.66
1200	15.26	20.26	14.88	17.75	1.11	0.72	41.24	21.80	0.68
1300	14.65	19.66	15.08	17.53	1.11	0.72	41.36	21.85	0.70
1400	14.08	19.09	15.25	17.39	1.11	0.71	41.34	21.96	0.73
1500	13.55	18.55	15.33	17.28	1.11	0.71	41.48	22.02	0.74
1600	13.05	18.05	15.38	17.23	1.11	0.71	41.88	22.00	0.76
1700	12.58	17.57	15.40	17.26	1.11	0.71	42.16	22.02	0.78
1800	12.14	17.11	15.34	17.39	1.11	0.71	42.34	22.16	0.79
1900	11.72	16.69	15.26	17.53	1.11	0.71	42.46	22.30	0.80
2000	11.33	16.27	15.14	17.70	1.11	0.71	42.79	22.35	0.82
2100	10.95	15.86	15.00	17.93	1.10	0.71	42.98	22.45	0.84
2200	10.60	15.48	14.83	18.25	1.10	0.72	43.25	22.45	0.85
2300	10.26	15.12	14.63	18.56	1.10	0.72	43.12	22.51	0.90
2400	9.94	14.77	14.45	18.89	1.10	0.72	44.15	22.58	0.96
2500	9.63	14.45	14.25	19.24	1.09	0.72	43.97	22.70	1.03
2600	9.34	14.11	14.06	19.66	1.09	0.72	43.98	22.78	1.11
2700	9.06	13.81	13.86	19.97	1.09	0.72	44.17	22.81	1.19
2800	8.78	13.50	13.74	20.39	1.09	0.72	44.10	22.73	1.26
2900	8.52	13.22	13.58	20.65	1.09	0.72	44.49	22.48	1.29
3000	8.26	12.94	13.53	20.77	1.08	0.72	43.66	22.18	1.31
3200	7.79	12.41	13.42	20.74	1.08	0.71	43.95	22.48	1.31
3300	7.57	12.16	13.37	20.58	1.08	0.71	43.95	22.83	1.31
3400	7.35	11.92	13.40	20.41	1.08	0.71	44.41	23.02	1.34
3500	7.14	11.68	13.44	20.11	1.07	0.71	44.68	23.00	1.38
3600	6.94	11.44	13.55	19.89	1.07	0.70	44.91	23.07	1.42
3700	6.76	11.22	13.63	19.49	1.07	0.70	45.26	23.06	1.46
3800	6.56	11.00	13.76	19.16	1.07	0.69	45.24	23.03	1.50
4000	6.21	10.59	14.01	18.53	1.07	0.69	44.59	22.90	1.59

MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Without Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 3.00V, Id = 56mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.33	29.88	6.29	13.54	0.87	0.76	31.22	14.88	0.33
100	25.52	29.46	7.94	17.99	0.96	0.75	31.60	14.91	0.46
200	24.40	28.38	9.07	21.21	0.99	0.73	31.79	16.77	0.49
400	21.90	26.17	10.62	24.11	1.04	0.72	32.65	18.08	0.68
500	20.71	25.10	11.23	24.79	1.05	0.72	32.87	18.19	0.68
600	19.63	24.09	11.72	24.96	1.06	0.72	33.00	18.46	0.69
700	18.63	23.17	12.15	24.99	1.07	0.72	33.15	18.50	0.67
800	17.72	22.35	12.50	24.92	1.08	0.72	33.22	18.57	0.60
900	16.88	21.57	12.81	24.69	1.09	0.72	33.43	18.69	0.58
1000	16.10	20.84	13.10	24.44	1.10	0.72	33.56	18.87	0.60
1100	15.38	20.15	13.33	24.22	1.10	0.72	33.57	18.90	0.61
1200	14.72	19.52	13.55	23.97	1.10	0.72	33.72	18.90	0.63
1300	14.11	18.92	13.73	23.70	1.11	0.72	33.95	18.97	0.65
1400	13.53	18.36	13.86	23.64	1.11	0.72	33.97	19.07	0.67
1500	12.99	17.85	13.95	23.54	1.11	0.72	34.12	19.17	0.69
1600	12.49	17.35	13.99	23.57	1.11	0.72	34.07	19.35	0.71
1700	12.01	16.87	14.01	23.69	1.11	0.72	34.28	19.41	0.73
1800	11.56	16.43	13.96	24.02	1.11	0.72	34.38	19.49	0.74
1900	11.14	16.02	13.90	24.38	1.11	0.72	34.36	19.49	0.75
2000	10.74	15.61	13.79	24.77	1.11	0.72	34.30	19.59	0.77
2100	10.36	15.23	13.67	25.30	1.11	0.72	34.38	19.70	0.78
2200	9.99	14.88	13.53	25.96	1.11	0.73	34.20	19.84	0.81
2300	9.65	14.54	13.36	26.50	1.11	0.73	34.24	19.84	0.85
2400	9.32	14.20	13.20	27.11	1.11	0.73	33.96	19.84	0.90
2500	9.00	13.88	13.03	27.66	1.11	0.73	33.86	19.85	0.97
2600	8.70	13.58	12.88	28.02	1.11	0.73	33.89	19.93	1.04
2700	8.41	13.29	12.71	28.02	1.11	0.73	33.86	19.97	1.13
2800	8.12	13.01	12.60	27.80	1.11	0.73	33.61	20.08	1.19
2900	7.85	12.73	12.49	27.26	1.11	0.73	33.30	20.07	1.22
3000	7.59	12.49	12.43	26.50	1.11	0.73	33.31	20.03	1.24
3200	7.10	11.98	12.36	24.94	1.11	0.73	33.35	20.22	1.21
3300	6.87	11.76	12.34	24.38	1.11	0.73	33.14	20.39	1.21
3400	6.65	11.52	12.37	23.68	1.10	0.73	33.18	20.37	1.23
3500	6.44	11.30	12.42	23.13	1.10	0.73	32.98	20.39	1.26
3600	6.23	11.08	12.51	22.60	1.10	0.73	32.92	20.32	1.30
3700	6.03	10.87	12.60	21.98	1.10	0.72	32.92	20.43	1.35
3800	5.84	10.68	12.73	21.54	1.10	0.72	32.97	20.52	1.38
4000	5.48	10.29	12.95	20.76	1.10	0.71	32.94	20.63	1.47



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8/14/2015
Page 7 of 12

MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Without Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 2.70V, Id = 50mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.11	30.26	6.04	13.78	0.87	0.83	30.18	14.88	0.36
100	25.31	29.37	7.62	17.56	0.95	0.77	30.29	14.91	0.49
200	24.20	28.19	8.74	20.50	0.98	0.74	30.53	16.77	0.51
400	21.71	25.85	10.29	23.42	1.02	0.72	30.98	18.08	0.69
500	20.53	24.78	10.89	24.35	1.04	0.72	31.22	18.19	0.69
600	19.44	23.82	11.36	24.94	1.05	0.72	31.43	18.46	0.72
700	18.45	22.91	11.79	25.45	1.06	0.72	31.58	18.50	0.68
800	17.54	22.08	12.13	25.82	1.07	0.72	31.68	18.57	0.62
900	16.70	21.29	12.46	25.97	1.08	0.72	31.81	18.69	0.59
1000	15.92	20.58	12.74	26.02	1.09	0.72	31.92	18.87	0.62
1100	15.21	19.89	12.98	26.03	1.09	0.72	32.00	18.90	0.63
1200	14.55	19.25	13.19	25.93	1.10	0.72	32.10	18.90	0.65
1300	13.93	18.68	13.37	25.82	1.10	0.72	32.18	18.97	0.67
1400	13.36	18.12	13.51	25.91	1.10	0.72	32.29	19.07	0.70
1500	12.82	17.58	13.59	25.94	1.10	0.72	32.45	19.17	0.71
1600	12.32	17.11	13.66	26.10	1.11	0.72	32.56	19.35	0.73
1700	11.84	16.65	13.66	26.30	1.11	0.72	32.67	19.41	0.74
1800	11.40	16.19	13.64	26.79	1.11	0.72	32.70	19.49	0.75
1900	10.98	15.79	13.57	27.28	1.11	0.72	32.78	19.49	0.76
2000	10.57	15.39	13.48	27.71	1.11	0.72	32.79	19.59	0.78
2100	10.19	15.02	13.39	28.28	1.11	0.72	32.81	19.70	0.79
2200	9.83	14.65	13.27	28.85	1.11	0.72	32.77	19.84	0.81
2300	9.48	14.29	13.12	29.28	1.11	0.72	32.68	19.84	0.85
2400	9.15	13.97	12.97	29.46	1.11	0.73	32.56	19.84	0.91
2500	8.83	13.66	12.80	29.38	1.11	0.73	32.56	19.85	0.98
2600	8.53	13.36	12.67	28.88	1.11	0.73	32.46	19.93	1.06
2700	8.24	13.06	12.52	28.15	1.10	0.73	32.40	19.97	1.13
2800	7.96	12.78	12.44	27.30	1.10	0.73	32.30	20.08	1.20
2900	7.69	12.53	12.33	26.29	1.10	0.73	32.22	20.07	1.23
3000	7.43	12.27	12.30	25.44	1.10	0.73	32.15	20.03	1.25
3200	6.94	11.78	12.24	23.87	1.10	0.73	31.95	20.22	1.25
3300	6.71	11.54	12.23	23.35	1.10	0.73	31.94	20.39	1.24
3400	6.49	11.32	12.28	22.74	1.10	0.73	31.86	20.37	1.28
3500	6.28	11.10	12.33	22.28	1.10	0.72	31.81	20.39	1.30
3600	6.07	10.89	12.44	21.77	1.10	0.72	31.77	20.32	1.34
3700	5.88	10.69	12.52	21.26	1.10	0.72	31.79	20.43	1.37
3800	5.68	10.48	12.70	20.93	1.10	0.72	31.75	20.52	1.41
4000	5.32	10.10	12.94	20.27	1.10	0.71	31.71	20.63	1.44

MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Without Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 3.30V, Id = 62mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.50	30.41	6.38	13.96	0.88	0.79	32.38	15.50	0.35
100	25.68	29.59	8.11	18.26	0.97	0.74	32.63	16.02	0.48
200	24.56	28.54	9.29	21.68	1.00	0.72	33.19	17.44	0.51
400	22.04	26.34	10.91	24.03	1.05	0.71	34.20	18.61	0.69
500	20.86	25.30	11.54	24.30	1.06	0.72	34.64	18.83	0.69
600	19.77	24.33	12.07	24.05	1.08	0.72	34.96	18.99	0.71
700	18.78	23.44	12.53	23.70	1.09	0.72	35.26	19.16	0.67
800	17.86	22.54	12.89	23.35	1.09	0.72	35.42	19.18	0.60
900	17.02	21.77	13.23	23.01	1.10	0.72	35.68	19.30	0.59
1000	16.24	21.04	13.52	22.66	1.10	0.72	35.84	19.45	0.63
1100	15.52	20.36	13.79	22.38	1.11	0.72	36.03	19.50	0.64
1200	14.86	19.74	14.03	22.05	1.11	0.72	36.19	19.50	0.66
1300	14.24	19.16	14.22	21.84	1.11	0.72	36.37	19.55	0.68
1400	13.66	18.59	14.36	21.68	1.11	0.72	36.56	19.63	0.71
1500	13.12	18.05	14.47	21.59	1.11	0.72	36.70	19.69	0.72
1600	12.62	17.57	14.53	21.59	1.12	0.72	36.73	19.83	0.75
1700	12.14	17.09	14.56	21.65	1.12	0.72	36.77	19.93	0.76
1800	11.69	16.66	14.53	21.93	1.12	0.73	36.95	20.02	0.76
1900	11.27	16.23	14.46	22.18	1.12	0.73	37.05	20.04	0.77
2000	10.87	15.83	14.36	22.51	1.12	0.73	37.00	20.09	0.78
2100	10.48	15.45	14.26	22.92	1.12	0.73	37.02	20.21	0.79
2200	10.12	15.09	14.11	23.42	1.12	0.73	37.18	20.30	0.81
2300	9.77	14.74	13.94	23.98	1.12	0.73	37.24	20.24	0.85
2400	9.44	14.39	13.79	24.52	1.11	0.73	37.23	20.23	0.90
2500	9.12	14.08	13.61	25.05	1.11	0.73	37.30	20.24	0.97
2600	8.82	13.77	13.46	25.57	1.11	0.74	37.32	20.33	1.04
2700	8.53	13.48	13.30	25.86	1.11	0.74	37.17	20.37	1.11
2800	8.24	13.19	13.20	26.20	1.11	0.74	36.92	20.41	1.18
2900	7.98	12.91	13.07	26.15	1.11	0.74	36.84	20.44	1.21
3000	7.72	12.66	13.03	25.77	1.11	0.74	36.58	20.37	1.23
3200	7.23	12.16	12.96	24.73	1.11	0.74	36.24	20.52	1.24
3300	6.99	11.92	12.93	24.29	1.11	0.74	36.24	20.61	1.23
3400	6.77	11.69	12.99	23.65	1.11	0.73	36.16	20.57	1.27
3500	6.55	11.46	13.04	23.09	1.11	0.73	36.15	20.59	1.31
3600	6.35	11.25	13.14	22.56	1.11	0.73	36.07	20.58	1.35
3700	6.15	11.04	13.23	21.91	1.11	0.73	36.09	20.81	1.37
3800	5.95	10.84	13.38	21.41	1.11	0.73	36.05	20.88	1.41
4000	5.59	10.46	13.61	20.52	1.11	0.72	36.00	20.96	1.43



MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Without Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5V, Id = 91mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.97	30.63	6.87	14.12	0.89	0.75	35.84	19.28	0.40
100	26.13	29.91	8.74	19.00	0.98	0.70	36.13	19.53	0.51
200	24.97	29.00	9.99	22.27	1.03	0.69	36.86	20.45	0.53
400	22.41	26.96	11.69	21.82	1.08	0.71	38.04	21.16	0.71
500	21.21	25.90	12.35	21.15	1.09	0.71	38.45	21.22	0.71
600	20.11	24.94	12.89	20.36	1.10	0.72	39.04	21.48	0.72
700	19.10	24.02	13.37	19.74	1.11	0.72	39.74	21.54	0.70
800	18.18	23.17	13.76	19.28	1.11	0.72	39.96	21.57	0.63
900	17.33	22.37	14.11	18.87	1.12	0.72	40.06	21.74	0.60
1000	16.55	21.64	14.42	18.51	1.12	0.73	40.73	21.65	0.63
1100	15.82	20.96	14.70	18.25	1.12	0.73	41.23	21.73	0.64
1200	15.16	20.33	14.94	17.98	1.13	0.73	41.10	21.79	0.66
1300	14.54	19.75	15.15	17.79	1.13	0.73	41.49	21.84	0.68
1400	13.96	19.20	15.31	17.65	1.13	0.73	41.84	21.95	0.70
1500	13.41	18.64	15.42	17.55	1.13	0.73	41.33	22.03	0.72
1600	12.91	18.16	15.49	17.51	1.13	0.73	41.67	22.04	0.75
1700	12.42	17.68	15.51	17.54	1.13	0.73	42.67	22.09	0.77
1800	11.97	17.23	15.47	17.68	1.13	0.73	42.46	22.25	0.78
1900	11.55	16.82	15.39	17.85	1.13	0.73	42.08	22.30	0.79
2000	11.14	16.41	15.28	18.02	1.13	0.74	41.59	22.33	0.81
2100	10.76	16.02	15.15	18.29	1.13	0.74	42.68	22.41	0.82
2200	10.39	15.66	15.00	18.61	1.13	0.74	43.43	22.45	0.84
2300	10.05	15.30	14.81	18.93	1.13	0.74	43.07	22.51	0.89
2400	9.72	14.96	14.63	19.28	1.13	0.74	42.91	22.55	0.94
2500	9.40	14.63	14.43	19.66	1.13	0.75	42.86	22.67	1.01
2600	9.10	14.33	14.27	20.05	1.13	0.75	42.61	22.74	1.09
2700	8.81	14.02	14.07	20.41	1.12	0.75	42.82	22.84	1.17
2800	8.52	13.72	13.96	20.79	1.12	0.75	43.13	22.80	1.24
2900	8.25	13.45	13.83	21.05	1.12	0.75	43.63	22.53	1.28
3000	7.99	13.18	13.78	21.21	1.12	0.75	44.18	22.27	1.30
3200	7.50	12.67	13.68	21.18	1.12	0.75	43.58	22.54	1.29
3300	7.27	12.43	13.65	21.06	1.12	0.75	43.58	22.81	1.30
3400	7.05	12.19	13.69	20.85	1.12	0.75	43.46	22.93	1.33
3500	6.83	11.95	13.73	20.58	1.11	0.75	44.65	22.98	1.36
3600	6.62	11.74	13.85	20.34	1.12	0.74	44.62	22.99	1.40
3700	6.42	11.52	13.93	19.94	1.11	0.74	44.62	23.04	1.45
3800	6.23	11.31	14.09	19.60	1.11	0.74	43.96	23.01	1.49
4000	5.86	10.92	14.34	18.96	1.11	0.73	44.30	22.84	1.57

MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Without Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 4.75V, Id = 86mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.94	30.81	6.84	14.07	0.90	0.77	36.67	18.77	0.39
100	26.10	29.83	8.71	19.04	0.98	0.70	36.84	19.06	0.50
200	24.94	28.95	9.96	22.49	1.03	0.69	37.21	20.09	0.52
400	22.38	26.89	11.66	22.21	1.08	0.71	37.70	20.88	0.71
500	21.18	25.84	12.31	21.53	1.09	0.71	38.31	20.98	0.70
600	20.08	24.89	12.85	20.71	1.10	0.72	38.92	21.15	0.73
700	19.08	23.97	13.32	20.11	1.11	0.72	39.36	21.26	0.70
800	18.16	23.13	13.71	19.64	1.11	0.72	39.79	21.33	0.63
900	17.31	22.35	14.07	19.18	1.12	0.73	40.27	21.38	0.60
1000	16.53	21.62	14.37	18.84	1.12	0.73	40.57	21.38	0.64
1100	15.80	20.94	14.65	18.58	1.12	0.73	40.86	21.43	0.64
1200	15.14	20.28	14.89	18.29	1.12	0.73	40.95	21.48	0.66
1300	14.51	19.69	15.10	18.10	1.13	0.73	41.21	21.52	0.68
1400	13.94	19.13	15.27	17.96	1.13	0.73	41.48	21.67	0.71
1500	13.39	18.60	15.36	17.85	1.13	0.73	41.51	21.73	0.72
1600	12.89	18.11	15.43	17.81	1.13	0.73	41.80	21.75	0.75
1700	12.40	17.64	15.45	17.83	1.13	0.73	42.03	21.79	0.77
1800	11.95	17.19	15.41	17.98	1.13	0.73	42.17	21.88	0.78
1900	11.53	16.77	15.34	18.14	1.13	0.73	42.26	22.02	0.79
2000	11.13	16.37	15.22	18.35	1.13	0.74	42.41	22.07	0.81
2100	10.74	15.98	15.09	18.60	1.13	0.74	42.61	22.14	0.83
2200	10.38	15.63	14.94	18.92	1.13	0.74	42.90	22.18	0.85
2300	10.03	15.26	14.75	19.25	1.13	0.74	43.05	22.26	0.88
2400	9.70	14.91	14.58	19.62	1.13	0.74	43.27	22.32	0.94
2500	9.38	14.58	14.38	20.03	1.12	0.74	43.24	22.40	1.01
2600	9.08	14.28	14.22	20.44	1.12	0.75	43.24	22.47	1.09
2700	8.79	13.97	14.04	20.77	1.12	0.75	43.26	22.50	1.17
2800	8.50	13.68	13.91	21.20	1.12	0.75	42.95	22.45	1.23
2900	8.23	13.41	13.78	21.44	1.12	0.75	43.24	22.28	1.26
3000	7.97	13.14	13.73	21.58	1.12	0.75	43.63	22.00	1.28
3200	7.48	12.64	13.64	21.53	1.12	0.75	44.14	22.27	1.28
3300	7.25	12.39	13.61	21.38	1.12	0.75	44.14	22.54	1.28
3400	7.03	12.15	13.63	21.17	1.12	0.75	44.37	22.67	1.32
3500	6.81	11.92	13.69	20.86	1.11	0.75	44.13	22.66	1.36
3600	6.60	11.70	13.80	20.60	1.11	0.74	44.19	22.70	1.40
3700	6.40	11.48	13.88	20.17	1.11	0.74	44.09	22.77	1.43
3800	6.21	11.28	14.04	19.81	1.11	0.74	44.02	22.82	1.47
4000	5.84	10.89	14.27	19.17	1.11	0.73	44.05	22.68	1.54



MMIC Amplifier Die

PGA-103-D+

Typical Performance Data

Without Full 2-Port Extension

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5.25V, Id = 93mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
50	26.99	30.20	6.87	13.89	0.89	0.69	35.70	19.56	0.41
100	26.15	29.92	8.77	19.04	0.98	0.70	35.98	19.76	0.51
200	24.99	29.05	10.03	22.24	1.03	0.70	36.74	20.62	0.53
400	22.42	26.97	11.74	21.72	1.08	0.71	37.99	21.20	0.71
500	21.22	25.91	12.39	20.97	1.09	0.71	38.64	21.32	0.71
600	20.12	24.94	12.93	20.19	1.10	0.72	39.23	21.48	0.73
700	19.12	24.05	13.41	19.60	1.11	0.72	39.68	21.58	0.69
800	18.19	23.18	13.79	19.13	1.11	0.72	40.07	21.60	0.63
900	17.34	22.41	14.15	18.70	1.12	0.72	40.45	21.76	0.62
1000	16.56	21.67	14.45	18.37	1.12	0.73	40.79	21.68	0.65
1100	15.83	21.01	14.74	18.13	1.13	0.73	40.92	21.72	0.66
1200	15.17	20.37	14.98	17.84	1.13	0.73	41.24	21.80	0.68
1300	14.55	19.77	15.20	17.66	1.13	0.73	41.36	21.85	0.70
1400	13.97	19.20	15.35	17.52	1.13	0.73	41.34	21.96	0.73
1500	13.42	18.67	15.45	17.42	1.13	0.73	41.48	22.02	0.74
1600	12.92	18.18	15.53	17.38	1.13	0.73	41.88	22.00	0.76
1700	12.43	17.71	15.54	17.41	1.13	0.73	42.16	22.02	0.78
1800	11.98	17.26	15.49	17.54	1.13	0.73	42.34	22.16	0.79
1900	11.56	16.84	15.44	17.70	1.13	0.73	42.46	22.30	0.80
2000	11.15	16.43	15.33	17.89	1.13	0.74	42.79	22.35	0.82
2100	10.77	16.04	15.19	18.13	1.13	0.74	42.98	22.45	0.84
2200	10.40	15.68	15.02	18.45	1.13	0.74	43.25	22.45	0.85
2300	10.06	15.32	14.84	18.77	1.13	0.74	43.12	22.51	0.90
2400	9.73	14.99	14.66	19.12	1.13	0.74	44.15	22.58	0.96
2500	9.41	14.66	14.48	19.48	1.13	0.75	43.97	22.70	1.03
2600	9.11	14.34	14.29	19.89	1.13	0.75	43.98	22.78	1.11
2700	8.82	14.04	14.11	20.22	1.12	0.75	44.17	22.81	1.19
2800	8.53	13.75	13.99	20.60	1.12	0.75	44.10	22.73	1.26
2900	8.26	13.47	13.86	20.87	1.12	0.75	44.49	22.48	1.29
3000	8.00	13.21	13.79	21.02	1.12	0.75	43.66	22.18	1.31
3200	7.51	12.70	13.71	21.01	1.12	0.75	43.95	22.48	1.31
3300	7.28	12.45	13.67	20.92	1.12	0.75	43.95	22.83	1.31
3400	7.06	12.21	13.71	20.74	1.12	0.75	44.41	23.02	1.34
3500	6.84	11.98	13.75	20.45	1.12	0.75	44.68	23.00	1.38
3600	6.63	11.75	13.86	20.19	1.11	0.74	44.91	23.07	1.42
3700	6.44	11.54	13.94	19.81	1.11	0.74	45.26	23.06	1.46
3800	6.24	11.33	14.11	19.49	1.11	0.74	45.24	23.03	1.50
4000	5.87	10.94	14.36	18.86	1.11	0.73	44.59	22.90	1.59

