TOSHIBA

TOSHIBA Discrete Devices
RF Power MOS FET
2SK3476
Application Note

Contents

・A lot of characteristic curves are published in this sheets.

・These are only typical curves and devices are not necessarily guaranteed at these curves.

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Rev 2.0

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Condition 1 (ZL = 1.82 + j0.73Ω)
⇒ "Condition 1" is the load impedance setup which gave priority to "Drain Efficiency".

Condition 2 (ZL = 1.38 + j0.21Ω)
⇒ "Condition 2" is the load impedance setup which gave priority to "Output Power".

Symbol

Characteristics	Symbol
Bias Current	Ibias
frequency	f
Input Power	Pi
Output Power	Po
Drain Efficiency	η d
Power Gain	Gp
Gate–Source Voltage	Vgs
Drain–Source Voltage	Vds
Drain–Source Current	Ids

Selection Guide

Load Impedance	Drain-Source Voltage	Bias Current	Contents (Input-Output Characteristics)	Page No
Priority Performance Drain Efficiency Condition 1 1.82 + j0.73Ω *(Please refer to P5 for details.)*	4.8V	100mA～900mA Step 200mA	Graph	6
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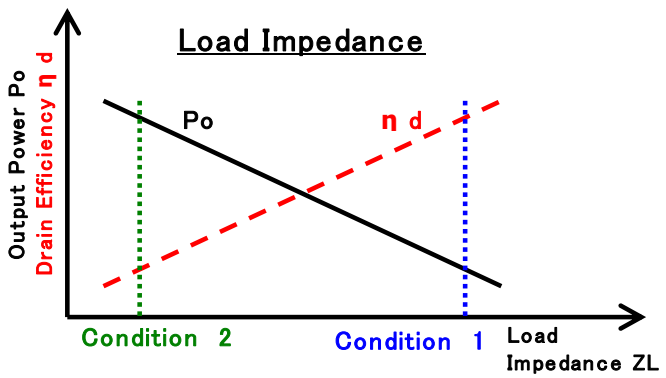
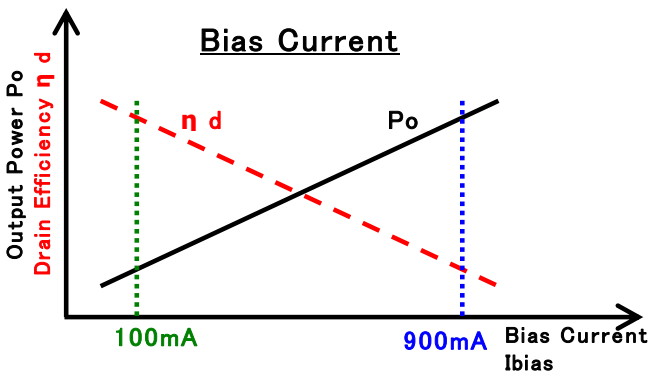
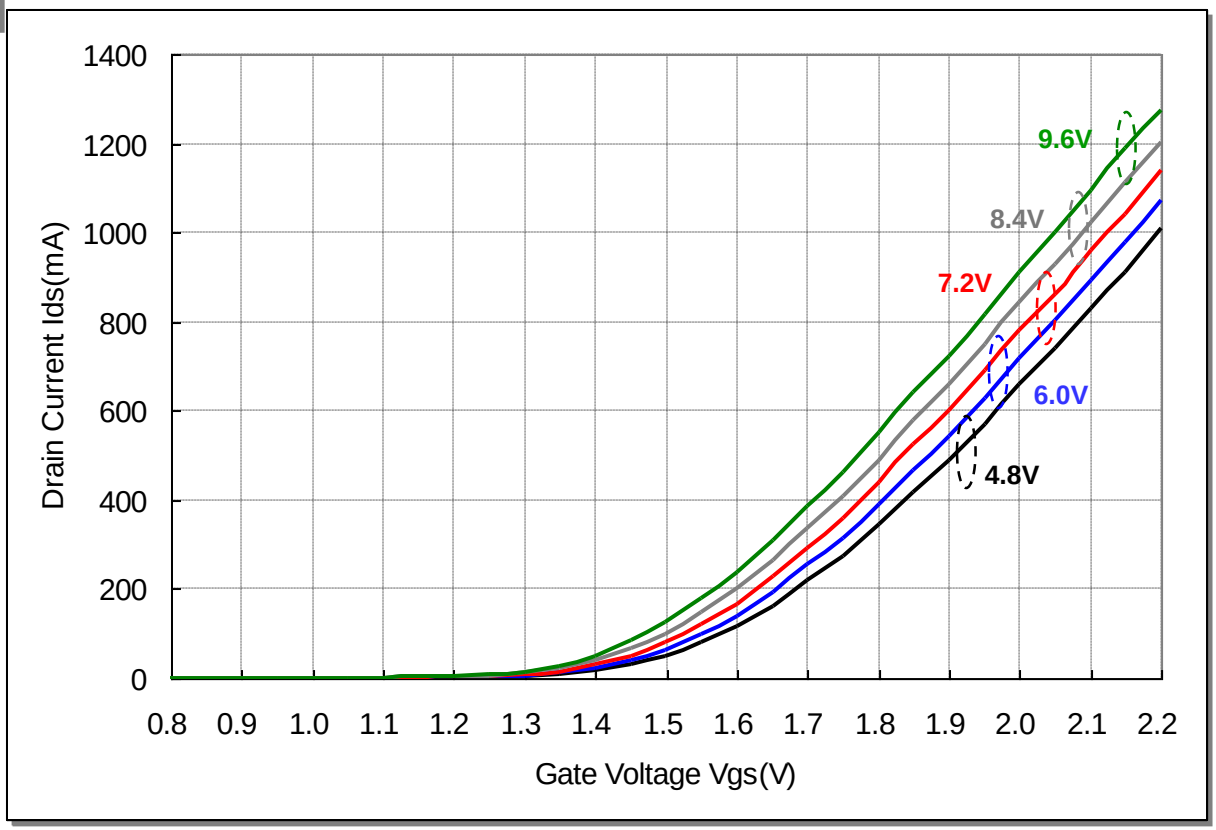




Bias Current Characteristics

Graph



Data

Vgs (V)	Vds (V)	Ids (mA)
0.50	4.8	0.0
0.55	4.8	0.0
0.60	4.8	0.0
0.65	4.8	0.0
0.70	4.8	0.1
0.75	4.8	0.1
0.80	4.8	0.2
0.85	4.8	0.3
0.90	4.8	0.4
0.95	4.8	0.6
1.00	4.8	0.8
1.05	4.8	1.0
1.10	4.8	1.3
1.15	4.8	1.7
1.20	4.8	2.3
1.25	4.8	3.3
1.30	4.8	5.2
1.35	4.8	8.8
1.40	4.8	16.3
1.45	4.8	29.8
1.50	4.8	48.4
1.55	4.8	79.2
1.60	4.8	118.2
1.65	4.8	160.0
1.70	4.8	217.7
1.75	4.8	272.5
1.80	4.8	344.2
1.85	4.8	418.6
1.90	4.8	489.2
1.95	4.8	570.7
2.00	4.8	657.6
2.05	4.8	738.8
2.10	4.8	827.9
2.15	4.8	912.8
2.20	4.8	1009.0

Vgs (V)	Vds (V)	Ids (mA)
0.50	6.0	0.0
0.55	6.0	0.0
0.60	6.0	0.0
0.65	6.0	0.0
0.70	6.0	0.1
0.75	6.0	0.1
0.80	6.0	0.2
0.85	6.0	0.3
0.90	6.0	0.5
0.95	6.0	0.6
1.00	6.0	0.9
1.05	6.0	1.1
1.10	6.0	1.4
1.15	6.0	1.9
1.20	6.0	2.6
1.25	6.0	3.9
1.30	6.0	6.7
1.35	6.0	11.7
1.40	6.0	21.9
1.45	6.0	39.2
1.50	6.0	63.4
1.55	6.0	98.1
1.60	6.0	137.8
1.65	6.0	192.8
1.70	6.0	255.6
1.75	6.0	315.9
1.80	6.0	390.3
1.85	6.0	467.0
1.90	6.0	541.4
1.95	6.0	630.2
2.00	6.0	717.8
2.05	6.0	802.0
2.10	6.0	893.4
2.15	6.0	979.6
2.20	6.0	1074.6

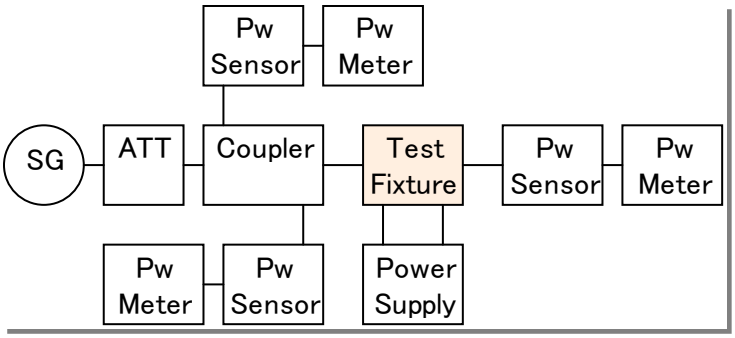
Vgs (V)	Vds (V)	Ids (mA)
0.50	7.2	0.0
0.55	7.2	0.0
0.60	7.2	0.0
0.65	7.2	0.0
0.70	7.2	0.1
0.75	7.2	0.1
0.80	7.2	0.2
0.85	7.2	0.3
0.90	7.2	0.5
0.95	7.2	0.7
1.00	7.2	0.9
1.05	7.2	1.2
1.10	7.2	1.5
1.15	7.2	2.1
1.20	7.2	3.0
1.25	7.2	4.8
1.30	7.2	8.8
1.35	7.2	15.6
1.40	7.2	29.3
1.45	7.2	51.2
1.50	7.2	80.4
1.55	7.2	121.1
1.60	7.2	167.6
1.65	7.2	228.4
1.70	7.2	293.1
1.75	7.2	360.0
1.80	7.2	440.8
1.85	7.2	522.9
1.90	7.2	599.6
1.95	7.2	689.7
2.00	7.2	779.1
2.05	7.2	863.5
2.10	7.2	959.2
2.15	7.2	1041.9
2.20	7.2	1141.2

Vgs (V)	Vds (V)	Ids (mA)
0.50	8.4	0.0
0.55	8.4	0.0
0.60	8.4	0.0
0.65	8.4	0.0
0.70	8.4	0.1
0.75	8.4	0.1
0.80	8.4	0.2
0.85	8.4	0.4
0.90	8.4	0.5
0.95	8.4	0.7
1.00	8.4	0.9
1.05	8.4	1.2
1.10	8.4	1.7
1.15	8.4	2.4
1.20	8.4	3.5
1.25	8.4	6.1
1.30	8.4	11.6
1.35	8.4	20.9
1.40	8.4	38.6
1.45	8.4	65.4
1.50	8.4	100.8
1.55	8.4	148.2
1.60	8.4	201.1
1.65	8.4	265.0
1.70	8.4	338.3
1.75	8.4	410.0
1.80	8.4	491.2
1.85	8.4	579.6
1.90	8.4	660.0
1.95	8.4	748.9
2.00	8.4	845.4
2.05	8.4	929.2
2.10	8.4	1021.5
2.15	8.4	1110.6
2.20	8.4	1204.5

Vgs (V)	Vds (V)	Ids (mA)
0.50	9.6	0.0
0.55	9.6	0.0
0.60	9.6	0.0
0.65	9.6	0.0
0.70	9.6	0.1
0.75	9.6	0.1
0.80	9.6	0.2
0.85	9.6	0.4
0.90	9.6	0.5
0.95	9.6	0.7
1.00	9.6	1.0
1.05	9.6	1.3
1.10	9.6	1.8
1.15	9.6	2.8
1.20	9.6	4.3
1.25	9.6	8.0
1.30	9.6	15.6
1.35	9.6	28.2
1.40	9.6	50.0
1.45	9.6	83.5
1.50	9.6	125.4
1.55	9.6	179.7
1.60	9.6	237.9
1.65	9.6	310.3
1.70	9.6	387.8
1.75	9.6	462.0
1.80	9.6	551.6
1.85	9.6	642.7
1.90	9.6	723.8
1.95	9.6	818.3
2.00	9.6	911.9
2.05	9.6	999.3
2.10	9.6	1093.0
2.15	9.6	1188.3
2.20	9.6	1273.6

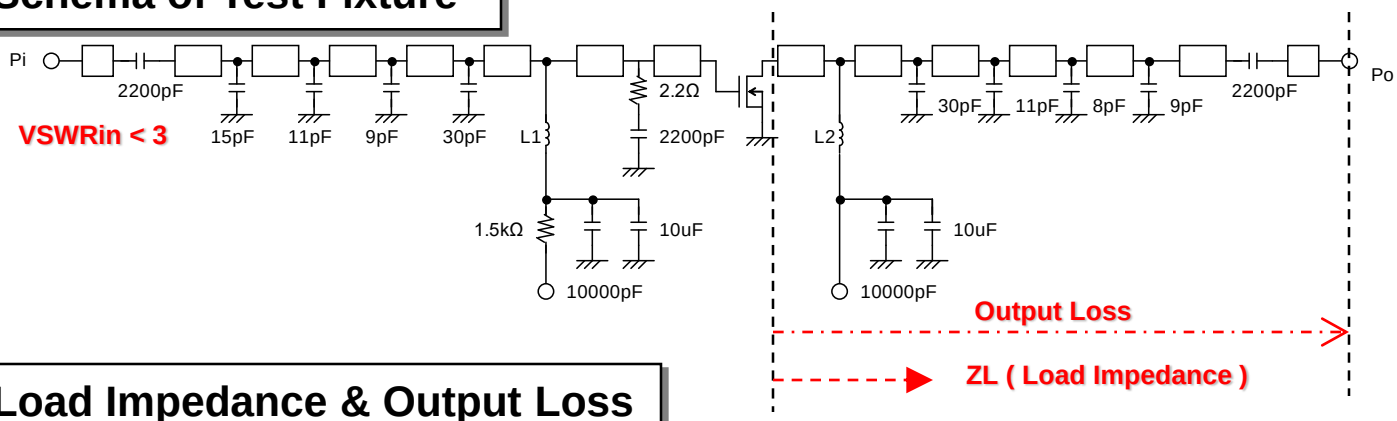
Test System – Condition 1

RF Test Block



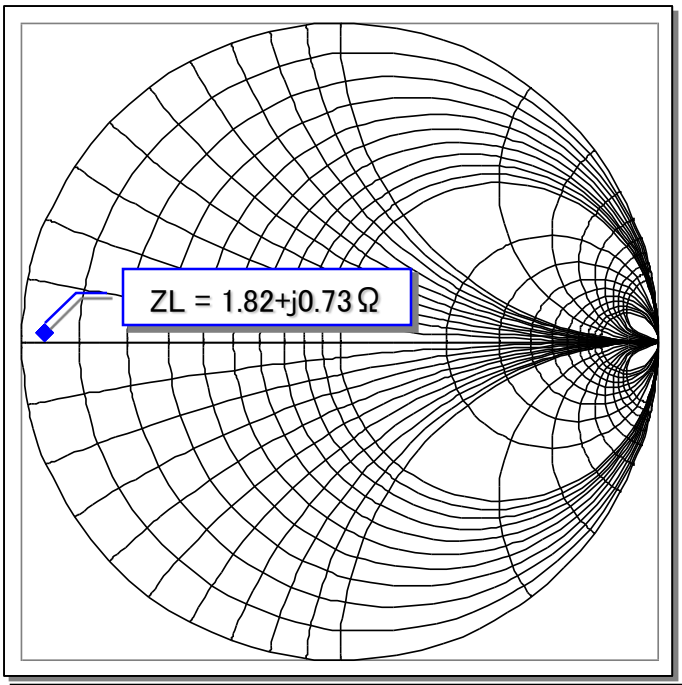
Test Fixture

Schema of Test Fixture

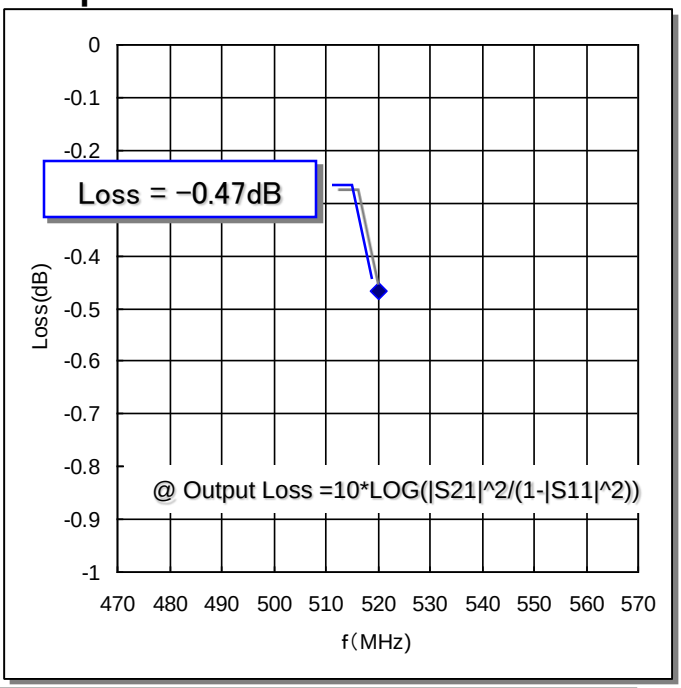


Load Impedance & Output Loss

Smith Chart



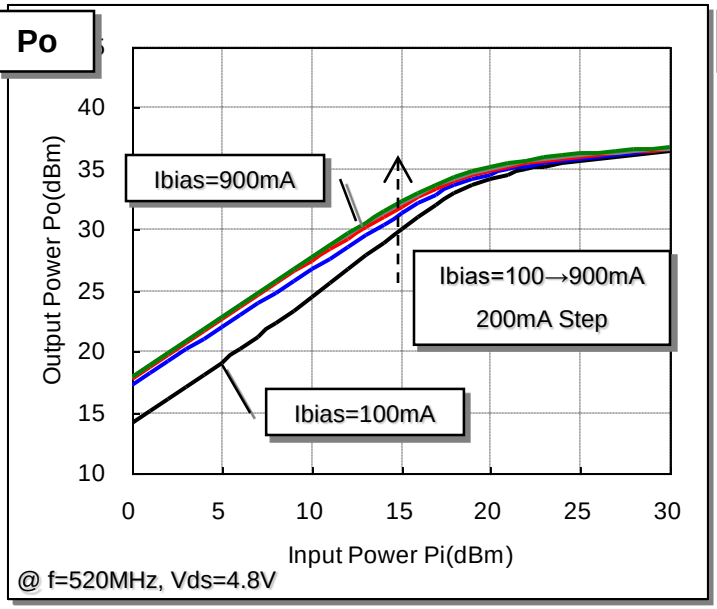
Output Loss

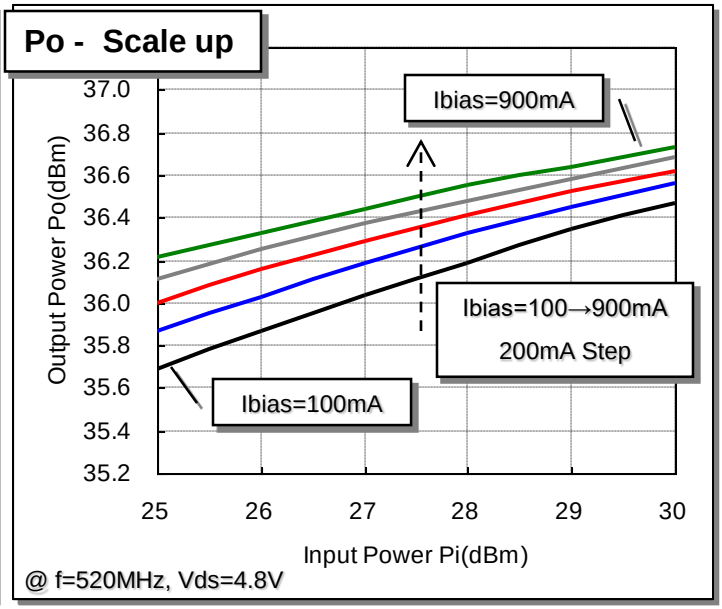


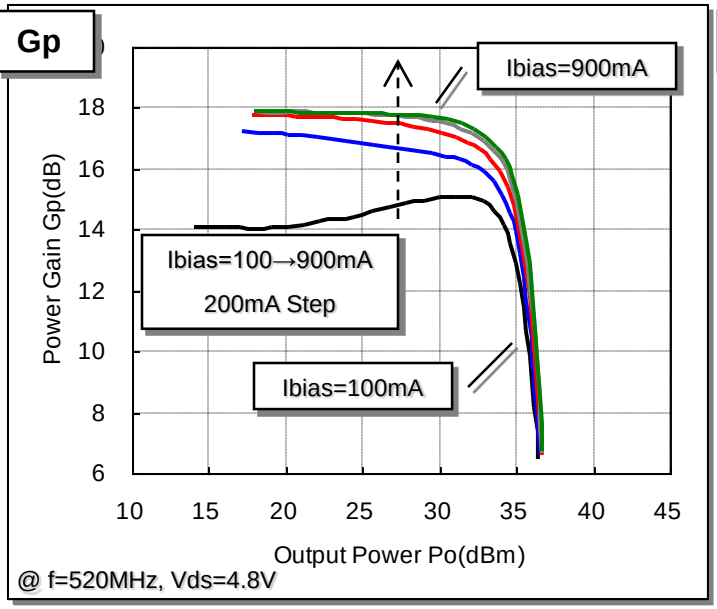
ZL = 1.82 + j 0.73Ω, Output Circuit Loss = −0.47dB (@ f=520MHz)

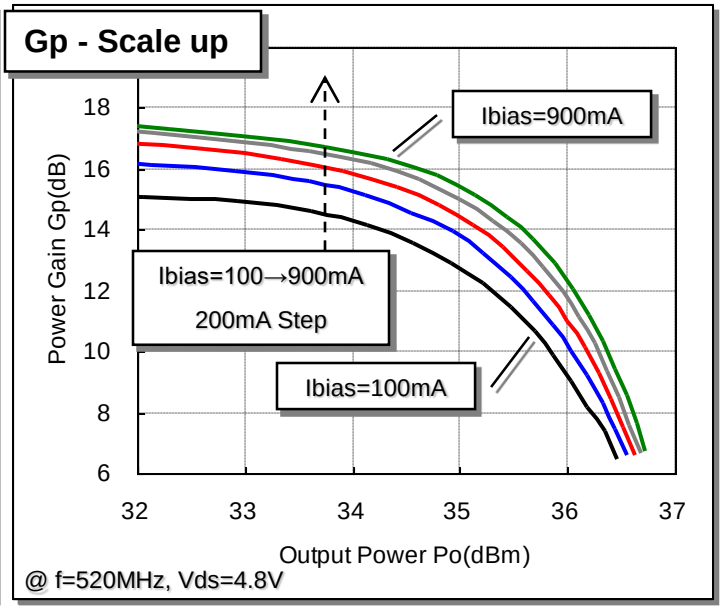
※ The test value in this application note includes the output loss.

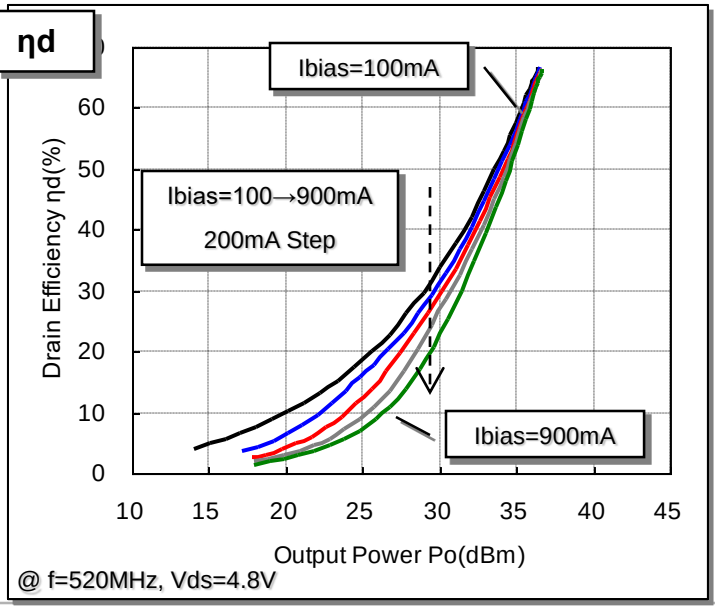
Input - Output Characteristics Vds =4.8V - Condition 1

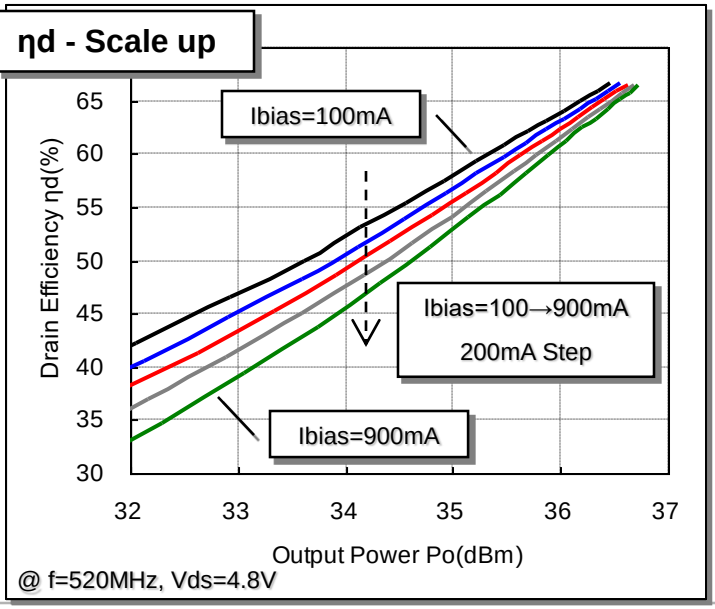








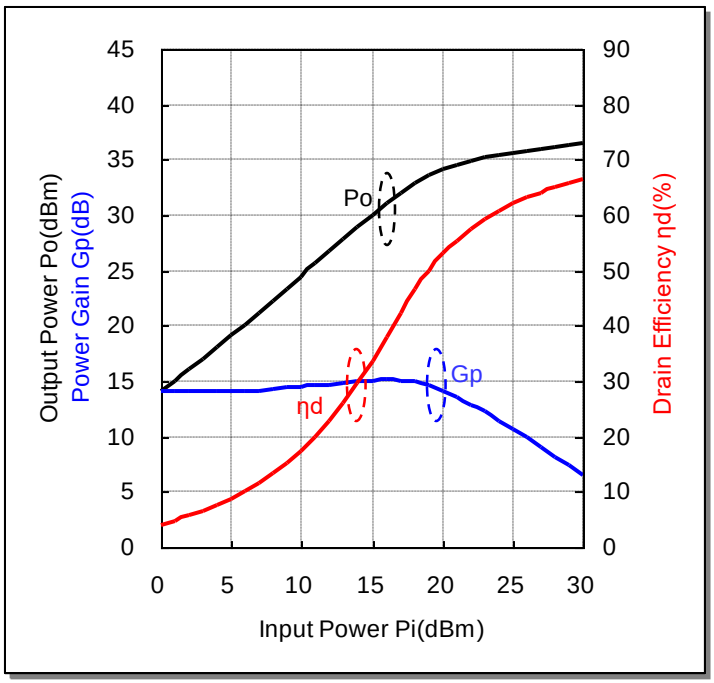




Input-Output Characteristics Vds＝4.8V, Ibias=100mA - Condition 1

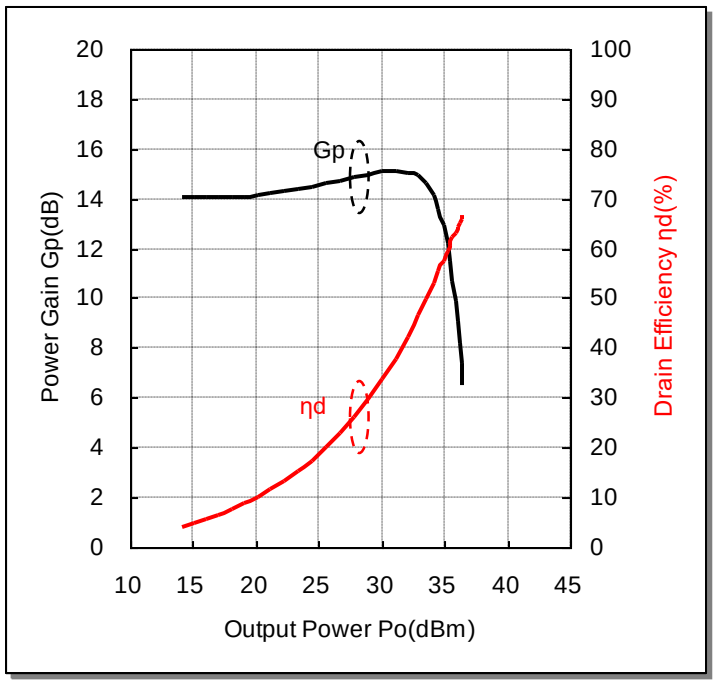
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=100.5mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=4.8V, Ibias=100.5mA

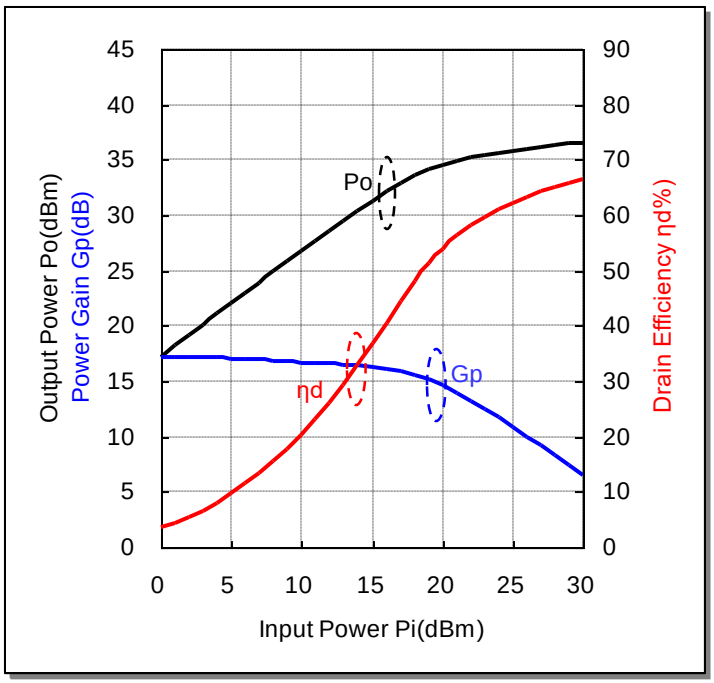
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.58	4.8	100.5	520	0.0	1.0	14.1	0.026	14.1	131	4.1
1.58	4.8	100.5	520	1.0	1.3	15.1	0.032	14.1	138	4.9
1.58	4.8	100.5	520	2.0	1.6	16.1	0.040	14.1	148	5.7
1.58	4.8	100.5	520	3.0	2.0	17.1	0.051	14.1	160	6.6
1.58	4.8	100.5	520	4.0	2.5	18.0	0.064	14.0	175	7.6
1.58	4.8	100.5	520	5.0	3.2	19.1	0.081	14.1	191	8.8
1.58	4.8	100.5	520	6.0	4.0	20.1	0.103	14.1	211	10.1
1.58	4.8	100.5	520	7.0	5.0	21.2	0.131	14.2	235	11.6
1.58	4.8	100.5	520	8.0	6.3	22.3	0.169	14.3	264	13.3
1.58	4.8	100.5	520	9.0	7.9	23.4	0.217	14.4	296	15.3
1.58	4.8	100.5	520	10.0	10.0	24.4	0.278	14.4	333	17.4
1.58	4.8	100.5	520	11.0	12.6	25.6	0.361	14.6	378	19.9
1.58	4.8	100.5	520	12.0	15.8	26.7	0.470	14.7	429	22.8
1.58	4.8	100.5	520	13.0	20.0	27.9	0.612	14.9	488	26.1
1.58	4.8	100.5	520	14.0	25.1	29.0	0.785	15.0	552	29.6
1.58	4.8	100.5	520	15.0	31.6	30.1	1.021	15.1	631	33.7
1.58	4.8	100.5	520	16.0	39.8	31.1	1.288	15.1	709	37.9
1.58	4.8	100.5	520	17.0	50.1	32.1	1.607	15.1	794	42.2
1.58	4.8	100.5	520	18.0	63.1	32.9	1.963	14.9	880	46.5
1.58	4.8	100.5	520	19.0	79.4	33.6	2.296	14.6	957	50.0
1.58	4.8	100.5	520	20.0	100.0	34.1	2.594	14.1	1020	53.0
1.58	4.8	100.5	520	21.0	125.9	34.6	2.858	13.6	1074	55.4
1.58	4.8	100.5	520	22.0	158.5	34.9	3.105	12.9	1125	57.5
1.58	4.8	100.5	520	23.0	199.5	35.2	3.327	12.2	1169	59.3
1.58	4.8	100.5	520	24.0	251.2	35.5	3.524	11.5	1208	60.8
1.58	4.8	100.5	520	25.0	316.2	35.7	3.707	10.7	1244	62.1
1.58	4.8	100.5	520	26.0	398.1	35.9	3.864	9.9	1276	63.1
1.58	4.8	100.5	520	27.0	501.2	36.0	4.018	9.0	1307	64.1
1.58	4.8	100.5	520	28.0	631.0	36.2	4.159	8.2	1335	64.9
1.58	4.8	100.5	520	29.0	794.3	36.3	4.315	7.3	1364	65.9
1.58	4.8	100.5	520	30.0	1000.0	36.5	4.436	6.5	1388	66.6

Input-Output Characteristics Vds=4.8V, Ibias=300mA - Condition 1

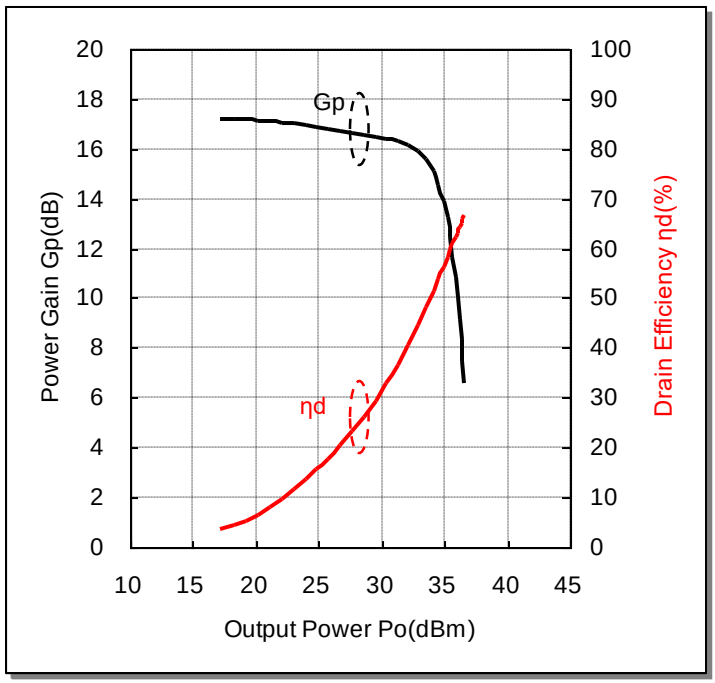
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=296.4mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=4.8V, Ibias=296.4mA

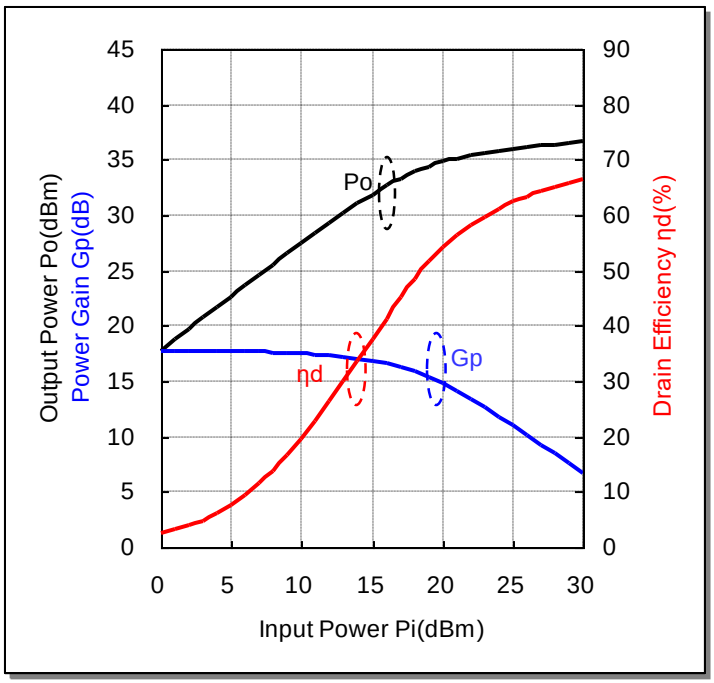
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.76	4.8	296.4	520	0.0	1.0	17.2	0.053	17.2	313	3.5
1.76	4.8	296.4	520	1.0	1.3	18.2	0.066	17.2	314	4.4
1.76	4.8	296.4	520	2.0	1.6	19.2	0.083	17.2	321	5.4
1.76	4.8	296.4	520	3.0	2.0	20.1	0.103	17.1	326	6.6
1.76	4.8	296.4	520	4.0	2.5	21.1	0.129	17.1	335	8.0
1.76	4.8	296.4	520	5.0	3.2	22.0	0.160	17.0	348	9.6
1.76	4.8	296.4	520	6.0	4.0	23.0	0.200	17.0	362	11.5
1.76	4.8	296.4	520	7.0	5.0	23.9	0.247	16.9	382	13.5
1.76	4.8	296.4	520	8.0	6.3	24.9	0.307	16.9	409	15.6
1.76	4.8	296.4	520	9.0	7.9	25.8	0.377	16.8	440	17.8
1.76	4.8	296.4	520	10.0	10.0	26.7	0.467	16.7	477	20.4
1.76	4.8	296.4	520	11.0	12.6	27.6	0.581	16.6	523	23.1
1.76	4.8	296.4	520	12.0	15.8	28.6	0.719	16.6	573	26.1
1.76	4.8	296.4	520	13.0	20.0	29.5	0.889	16.5	630	29.4
1.76	4.8	296.4	520	14.0	25.1	30.4	1.099	16.4	695	33.0
1.76	4.8	296.4	520	15.0	31.6	31.3	1.346	16.3	764	36.7
1.76	4.8	296.4	520	16.0	39.8	32.1	1.633	16.1	839	40.6
1.76	4.8	296.4	520	17.0	50.1	32.9	1.959	15.9	916	44.6
1.76	4.8	296.4	520	18.0	63.1	33.6	2.286	15.6	988	48.2
1.76	4.8	296.4	520	19.0	79.4	34.1	2.582	15.1	1050	51.2
1.76	4.8	296.4	520	20.0	100.0	34.5	2.851	14.5	1104	53.8
1.76	4.8	296.4	520	21.0	125.9	34.9	3.112	13.9	1153	56.2
1.76	4.8	296.4	520	22.0	158.5	35.2	3.327	13.2	1193	58.1
1.76	4.8	296.4	520	23.0	199.5	35.5	3.524	12.5	1230	59.7
1.76	4.8	296.4	520	24.0	251.2	35.7	3.698	11.7	1263	61.0
1.76	4.8	296.4	520	25.0	316.2	35.9	3.864	10.9	1293	62.2
1.76	4.8	296.4	520	26.0	398.1	36.0	4.009	10.0	1322	63.2
1.76	4.8	296.4	520	27.0	501.2	36.2	4.159	9.2	1350	64.2
1.76	4.8	296.4	520	28.0	631.0	36.3	4.295	8.3	1374	65.1
1.76	4.8	296.4	520	29.0	794.3	36.5	4.416	7.5	1397	65.8
1.76	4.8	296.4	520	30.0	1000.0	36.6	4.529	6.6	1418	66.5

Input-Output Characteristics Vds=4.8V, Ibias=500mA - Condition 1

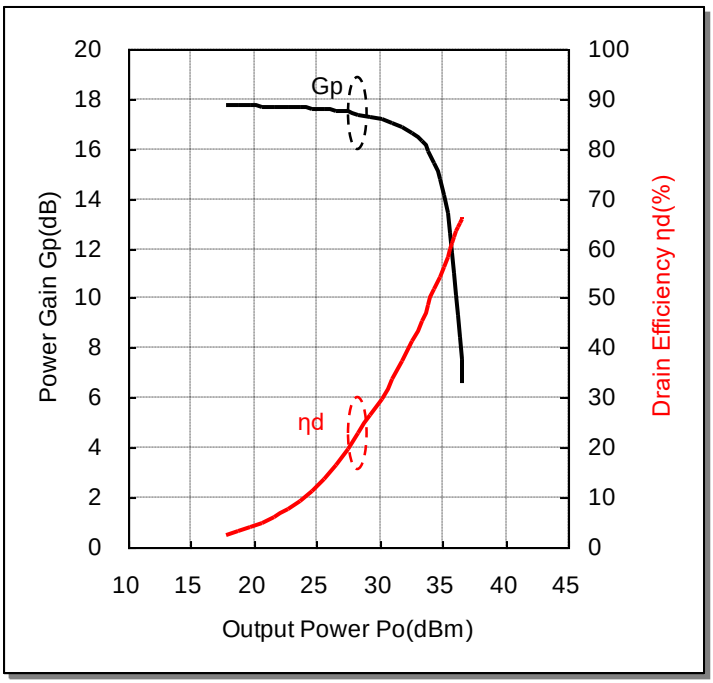
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=492.4mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=4.8V, Ibias=492.4mA

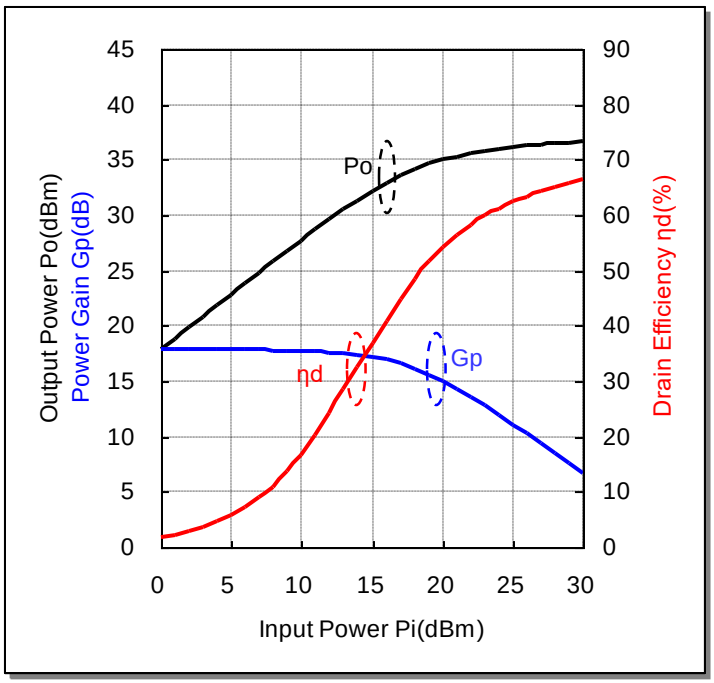
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.90	4.8	492.4	520	0.0	1.0	17.8	0.060	17.8	499	2.5
1.90	4.8	492.4	520	1.0	1.3	18.8	0.075	17.8	502	3.1
1.90	4.8	492.4	520	2.0	1.6	19.8	0.094	17.8	503	3.9
1.90	4.8	492.4	520	3.0	2.0	20.7	0.118	17.7	507	4.8
1.90	4.8	492.4	520	4.0	2.5	21.7	0.148	17.7	510	6.0
1.90	4.8	492.4	520	5.0	3.2	22.7	0.185	17.7	514	7.5
1.90	4.8	492.4	520	6.0	4.0	23.7	0.232	17.7	522	9.3
1.90	4.8	492.4	520	7.0	5.0	24.6	0.290	17.6	531	11.4
1.90	4.8	492.4	520	8.0	6.3	25.6	0.360	17.6	545	13.8
1.90	4.8	492.4	520	9.0	7.9	26.5	0.449	17.5	563	16.6
1.90	4.8	492.4	520	10.0	10.0	27.5	0.558	17.5	591	19.7
1.90	4.8	492.4	520	11.0	12.6	28.4	0.687	17.4	625	22.9
1.90	4.8	492.4	520	12.0	15.8	29.3	0.851	17.3	673	26.4
1.90	4.8	492.4	520	13.0	20.0	30.2	1.038	17.2	725	29.8
1.90	4.8	492.4	520	14.0	25.1	31.0	1.271	17.0	786	33.7
1.90	4.8	492.4	520	15.0	31.6	31.9	1.535	16.9	854	37.4
1.90	4.8	492.4	520	16.0	39.8	32.6	1.837	16.6	926	41.3
1.90	4.8	492.4	520	17.0	50.1	33.3	2.158	16.3	995	45.2
1.90	4.8	492.4	520	18.0	63.1	33.9	2.466	15.9	1058	48.6
1.90	4.8	492.4	520	19.0	79.4	34.4	2.767	15.4	1115	51.7
1.90	4.8	492.4	520	20.0	100.0	34.8	3.027	14.8	1163	54.2
1.90	4.8	492.4	520	21.0	125.9	35.1	3.258	14.1	1205	56.3
1.90	4.8	492.4	520	22.0	158.5	35.4	3.467	13.4	1241	58.2
1.90	4.8	492.4	520	23.0	199.5	35.6	3.656	12.6	1274	59.8
1.90	4.8	492.4	520	24.0	251.2	35.8	3.828	11.8	1303	61.2
1.90	4.8	492.4	520	25.0	316.2	36.0	3.981	11.0	1330	62.4
1.90	4.8	492.4	520	26.0	398.1	36.2	4.130	10.2	1357	63.4
1.90	4.8	492.4	520	27.0	501.2	36.3	4.256	9.3	1379	64.3
1.90	4.8	492.4	520	28.0	631.0	36.4	4.375	8.4	1401	65.1
1.90	4.8	492.4	520	29.0	794.3	36.5	4.487	7.5	1421	65.8
1.90	4.8	492.4	520	30.0	1000.0	36.6	4.592	6.6	1440	66.4

Input-Output Characteristics Vds=4.8V, Ibias=700mA - Condition 1

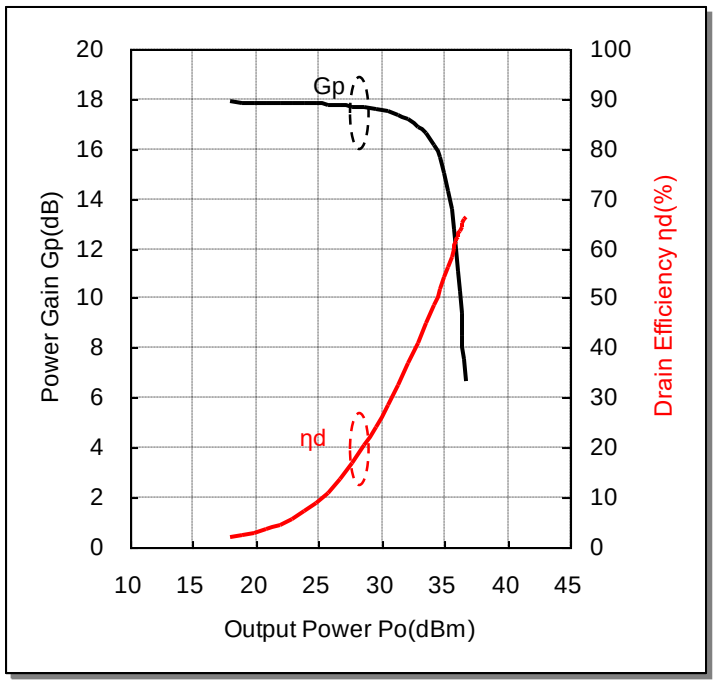
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=687.4mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=4.8V, Ibias=687.4mA

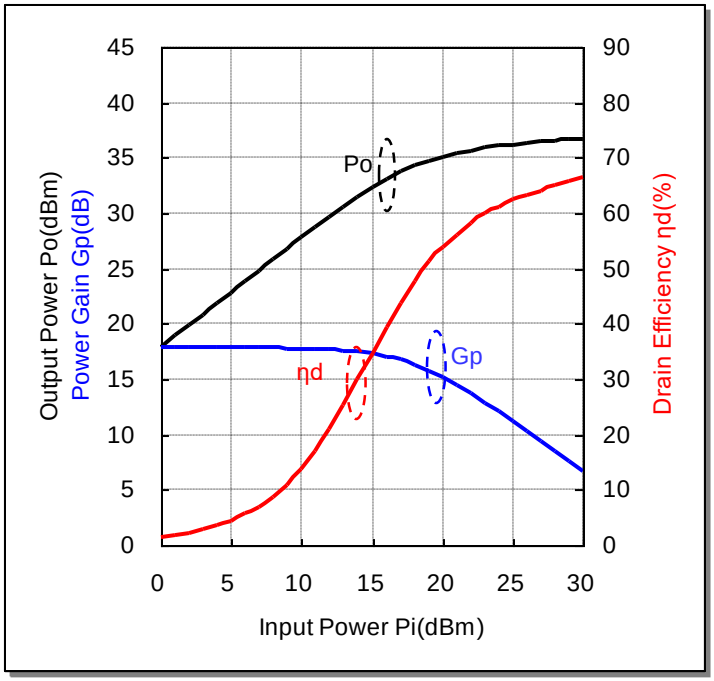
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.02	4.8	687.4	520	0.0	1.0	17.9	0.062	17.9	691	1.9
2.02	4.8	687.4	520	1.0	1.3	18.9	0.077	17.9	693	2.3
2.02	4.8	687.4	520	2.0	1.6	19.9	0.097	17.9	693	2.9
2.02	4.8	687.4	520	3.0	2.0	20.9	0.122	17.9	695	3.7
2.02	4.8	687.4	520	4.0	2.5	21.9	0.153	17.9	696	4.6
2.02	4.8	687.4	520	5.0	3.2	22.9	0.193	17.9	699	5.7
2.02	4.8	687.4	520	6.0	4.0	23.8	0.242	17.8	703	7.2
2.02	4.8	687.4	520	7.0	5.0	24.8	0.304	17.8	710	8.9
2.02	4.8	687.4	520	8.0	6.3	25.8	0.377	17.8	714	11.0
2.02	4.8	687.4	520	9.0	7.9	26.7	0.472	17.7	722	13.6
2.02	4.8	687.4	520	10.0	10.0	27.7	0.590	17.7	733	16.8
2.02	4.8	687.4	520	11.0	12.6	28.7	0.736	17.7	753	20.4
2.02	4.8	687.4	520	12.0	15.8	29.6	0.906	17.6	778	24.2
2.02	4.8	687.4	520	13.0	20.0	30.5	1.119	17.5	820	28.5
2.02	4.8	687.4	520	14.0	25.1	31.3	1.355	17.3	869	32.5
2.02	4.8	687.4	520	15.0	31.6	32.2	1.648	17.2	931	36.9
2.02	4.8	687.4	520	16.0	39.8	32.9	1.950	16.9	995	40.8
2.02	4.8	687.4	520	17.0	50.1	33.6	2.286	16.6	1060	44.9
2.02	4.8	687.4	520	18.0	63.1	34.2	2.612	16.2	1120	48.6
2.02	4.8	687.4	520	19.0	79.4	34.6	2.904	15.6	1171	51.6
2.02	4.8	687.4	520	20.0	100.0	35.0	3.155	15.0	1214	54.1
2.02	4.8	687.4	520	21.0	125.9	35.3	3.388	14.3	1251	56.4
2.02	4.8	687.4	520	22.0	158.5	35.6	3.597	13.6	1284	58.4
2.02	4.8	687.4	520	23.0	199.5	35.8	3.776	12.8	1313	59.9
2.02	4.8	687.4	520	24.0	251.2	36.0	3.936	12.0	1339	61.3
2.02	4.8	687.4	520	25.0	316.2	36.1	4.083	11.1	1364	62.4
2.02	4.8	687.4	520	26.0	398.1	36.3	4.217	10.3	1386	63.4
2.02	4.8	687.4	520	27.0	501.2	36.4	4.335	9.4	1406	64.3
2.02	4.8	687.4	520	28.0	631.0	36.5	4.446	8.5	1425	65.0
2.02	4.8	687.4	520	29.0	794.3	36.6	4.550	7.6	1443	65.7
2.02	4.8	687.4	520	30.0	1000.0	36.7	4.656	6.7	1460	66.5

Input-Output Characteristics Vds＝4.8V, Ibias=900mA - Condition 1

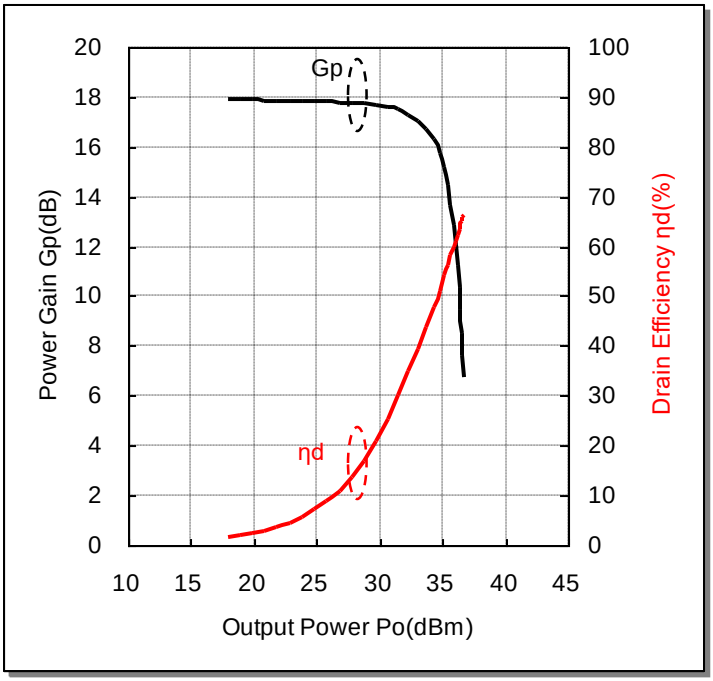
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=888.4mA

Power Gain, Drain Efficiency vs Output Power

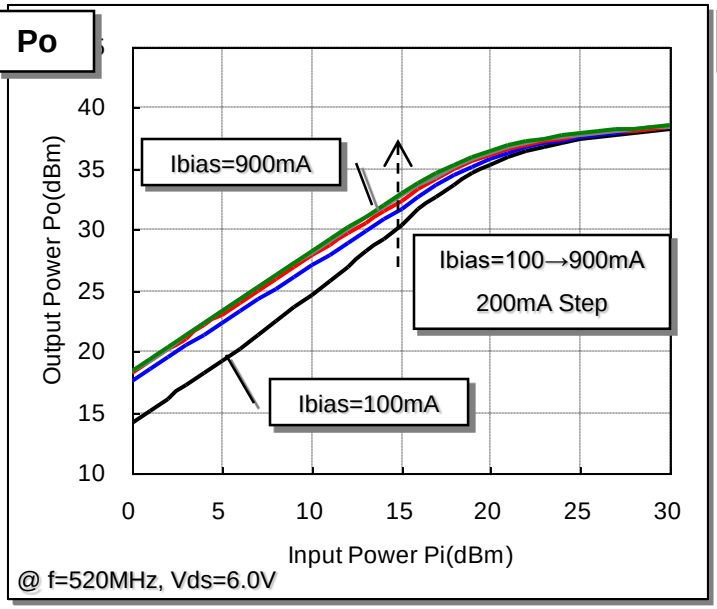


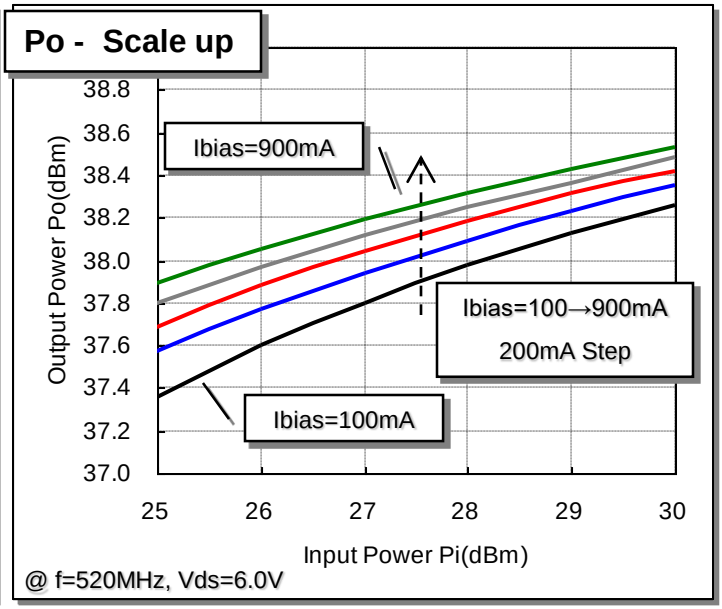
@ f=520MHz, Vds=4.8V, Ibias=888.4mA

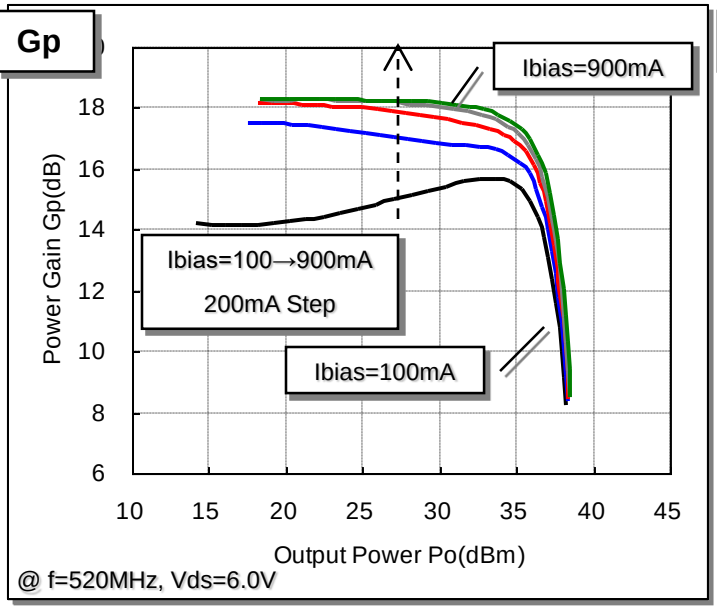
Data

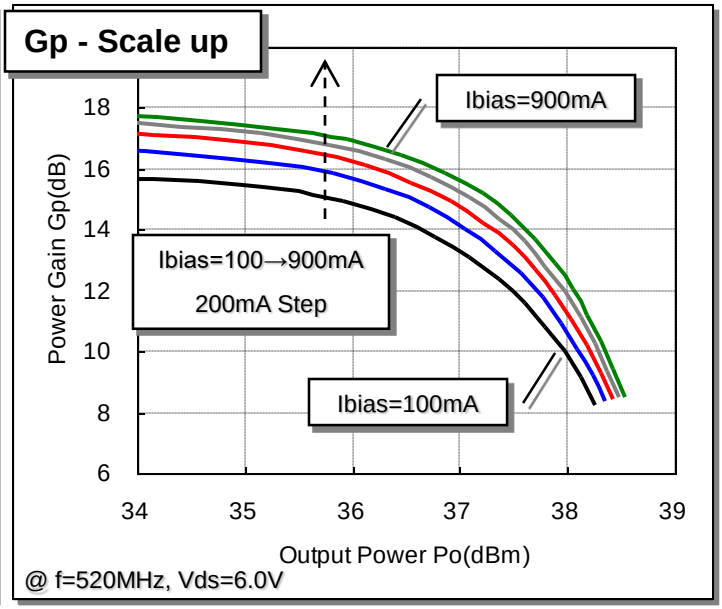
Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.13	4.8	888.4	520	0.0	1.0	17.9	0.062	17.9	889	1.5
2.13	4.8	888.4	520	1.0	1.3	18.9	0.078	17.9	890	1.8
2.13	4.8	888.4	520	2.0	1.6	19.9	0.098	17.9	890	2.3
2.13	4.8	888.4	520	3.0	2.0	20.9	0.122	17.9	892	2.8
2.13	4.8	888.4	520	4.0	2.5	21.9	0.153	17.9	892	3.6
2.13	4.8	888.4	520	5.0	3.2	22.9	0.193	17.9	894	4.5
2.13	4.8	888.4	520	6.0	4.0	23.8	0.242	17.8	897	5.6
2.13	4.8	888.4	520	7.0	5.0	24.8	0.303	17.8	898	7.0
2.13	4.8	888.4	520	8.0	6.3	25.8	0.381	17.8	901	8.8
2.13	4.8	888.4	520	9.0	7.9	26.8	0.478	17.8	908	11.0
2.13	4.8	888.4	520	10.0	10.0	27.8	0.598	17.8	912	13.7
2.13	4.8	888.4	520	11.0	12.6	28.7	0.748	17.7	921	16.9
2.13	4.8	888.4	520	12.0	15.8	29.7	0.933	17.7	933	20.8
2.13	4.8	888.4	520	13.0	20.0	30.6	1.153	17.6	949	25.3
2.13	4.8	888.4	520	14.0	25.1	31.5	1.403	17.5	975	30.0
2.13	4.8	888.4	520	15.0	31.6	32.3	1.694	17.3	1016	34.8
2.13	4.8	888.4	520	16.0	39.8	33.1	2.023	17.1	1069	39.4
2.13	4.8	888.4	520	17.0	50.1	33.7	2.366	16.7	1126	43.8
2.13	4.8	888.4	520	18.0	63.1	34.3	2.710	16.3	1180	47.9
2.13	4.8	888.4	520	19.0	79.4	34.8	3.006	15.8	1224	51.2
2.13	4.8	888.4	520	20.0	100.0	35.2	3.273	15.2	1262	54.0
2.13	4.8	888.4	520	21.0	125.9	35.4	3.491	14.4	1296	56.1
2.13	4.8	888.4	520	22.0	158.5	35.7	3.698	13.7	1324	58.2
2.13	4.8	888.4	520	23.0	199.5	35.9	3.882	12.9	1352	59.8
2.13	4.8	888.4	520	24.0	251.2	36.1	4.036	12.1	1374	61.2
2.13	4.8	888.4	520	25.0	316.2	36.2	4.178	11.2	1395	62.4
2.13	4.8	888.4	520	26.0	398.1	36.3	4.295	10.3	1414	63.3
2.13	4.8	888.4	520	27.0	501.2	36.4	4.406	9.4	1431	64.1
2.13	4.8	888.4	520	28.0	631.0	36.5	4.519	8.5	1447	65.0
2.13	4.8	888.4	520	29.0	794.3	36.6	4.613	7.6	1463	65.7
2.13	4.8	888.4	520	30.0	1000.0	36.7	4.710	6.7	1478	66.4

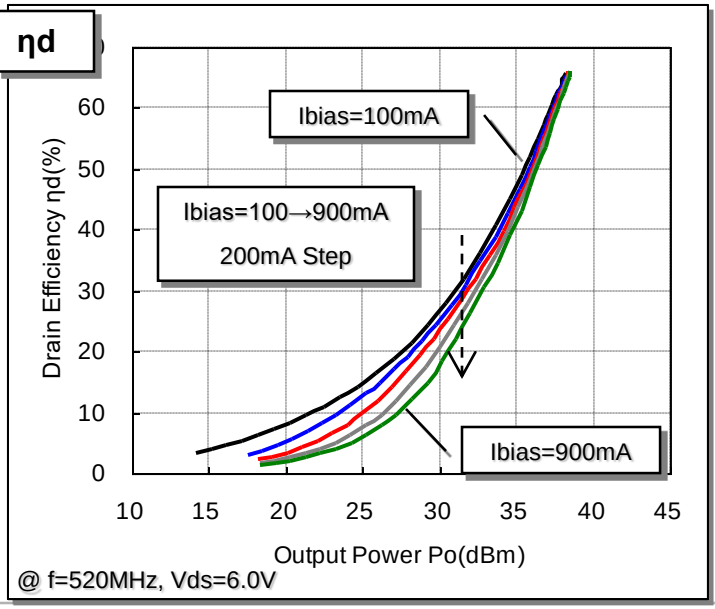
Input - Output Characteristics Vds＝6.0V - Condition 1

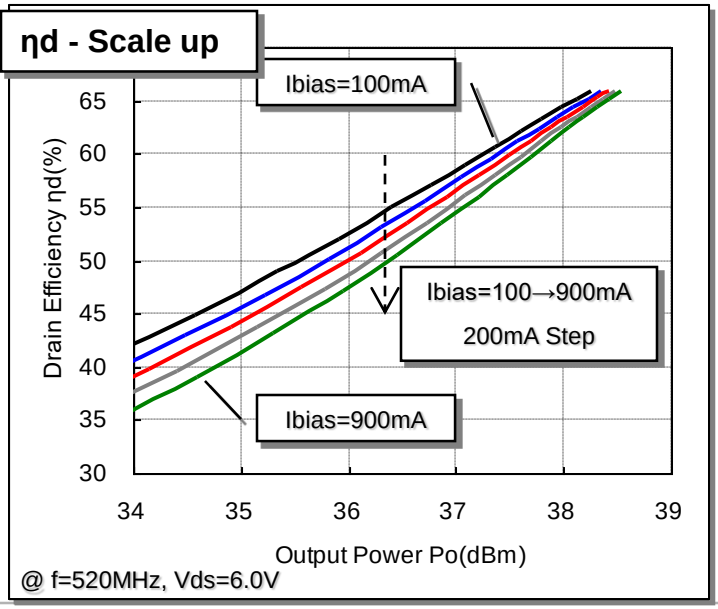








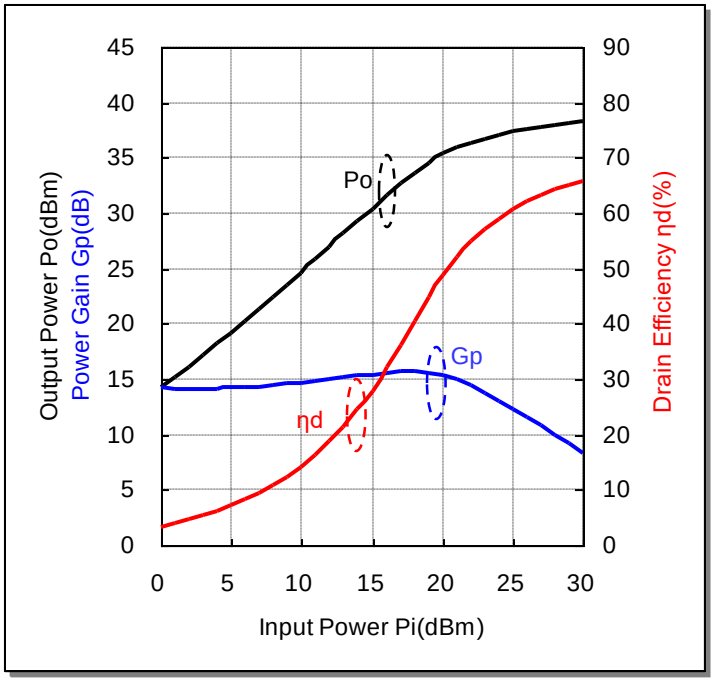




Input-Output Characteristics Vds＝6.0V, Ibias=100mA - Condition 1

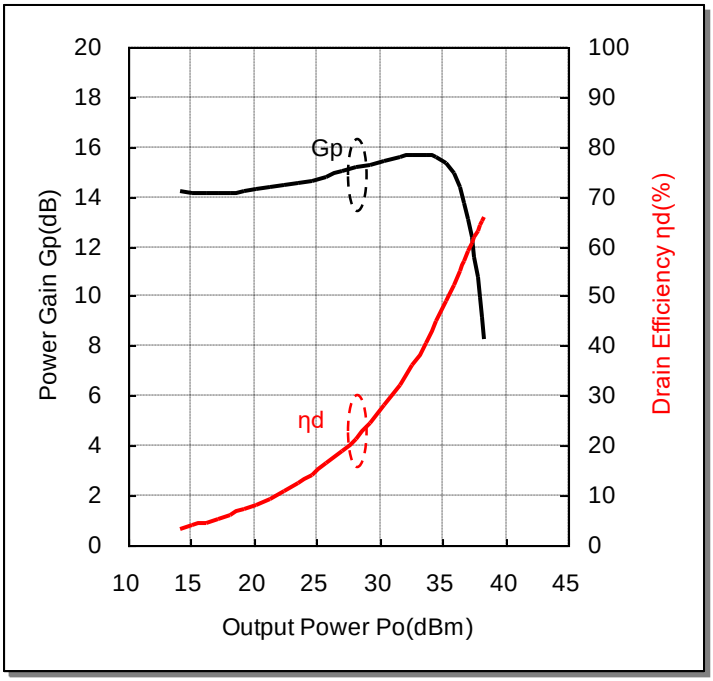
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=98.2mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=6.0V, Ibias=98.2mA

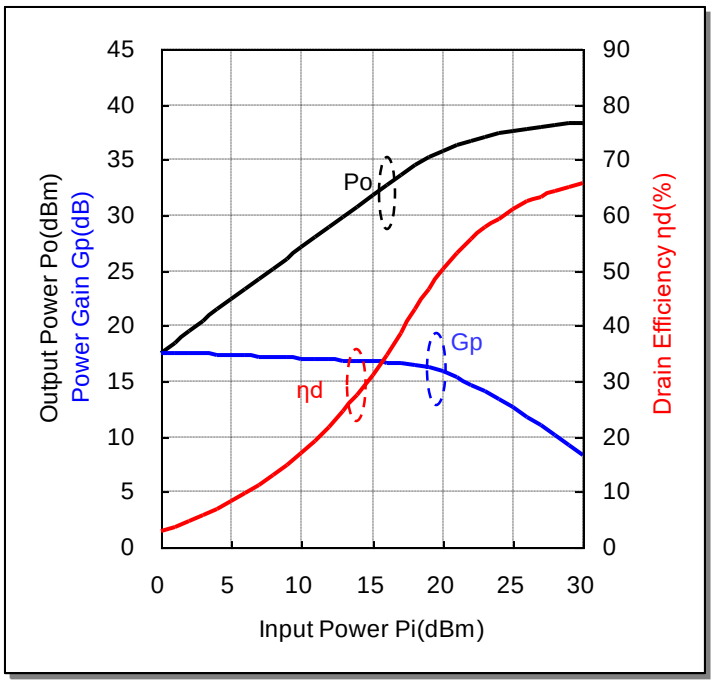
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.55	6.0	98.2	520	0.0	1.0	14.2	0.026	14.2	132	3.3
1.55	6.0	98.2	520	1.0	1.3	15.1	0.033	14.1	139	3.9
1.55	6.0	98.2	520	2.0	1.6	16.2	0.041	14.2	149	4.6
1.55	6.0	98.2	520	3.0	2.0	17.2	0.052	14.2	162	5.3
1.55	6.0	98.2	520	4.0	2.5	18.2	0.066	14.2	177	6.2
1.55	6.0	98.2	520	5.0	3.2	19.2	0.083	14.2	195	7.1
1.55	6.0	98.2	520	6.0	4.0	20.3	0.106	14.3	216	8.2
1.55	6.0	98.2	520	7.0	5.0	21.3	0.136	14.3	241	9.4
1.55	6.0	98.2	520	8.0	6.3	22.4	0.175	14.4	271	10.8
1.55	6.0	98.2	520	9.0	7.9	23.6	0.227	14.6	305	12.4
1.55	6.0	98.2	520	10.0	10.0	24.6	0.292	14.6	343	14.2
1.55	6.0	98.2	520	11.0	12.6	25.8	0.381	14.8	390	16.3
1.55	6.0	98.2	520	12.0	15.8	27.0	0.500	15.0	446	18.7
1.55	6.0	98.2	520	13.0	20.0	28.2	0.655	15.2	508	21.5
1.55	6.0	98.2	520	14.0	25.1	29.3	0.847	15.3	578	24.4
1.55	6.0	98.2	520	15.0	31.6	30.4	1.102	15.4	658	27.9
1.55	6.0	98.2	520	16.0	39.8	31.6	1.449	15.6	754	32.0
1.55	6.0	98.2	520	17.0	50.1	32.7	1.845	15.7	851	36.1
1.55	6.0	98.2	520	18.0	63.1	33.7	2.333	15.7	957	40.6
1.55	6.0	98.2	520	19.0	79.4	34.6	2.864	15.6	1064	44.9
1.55	6.0	98.2	520	20.0	100.0	35.3	3.420	15.3	1166	48.9
1.55	6.0	98.2	520	21.0	125.9	35.9	3.908	14.9	1252	52.0
1.55	6.0	98.2	520	22.0	158.5	36.4	4.365	14.4	1325	54.9
1.55	6.0	98.2	520	23.0	199.5	36.8	4.753	13.8	1388	57.1
1.55	6.0	98.2	520	24.0	251.2	37.1	5.117	13.1	1446	59.0
1.55	6.0	98.2	520	25.0	316.2	37.4	5.445	12.4	1497	60.6
1.55	6.0	98.2	520	26.0	398.1	37.6	5.754	11.6	1546	62.0
1.55	6.0	98.2	520	27.0	501.2	37.8	6.026	10.8	1588	63.2
1.55	6.0	98.2	520	28.0	631.0	38.0	6.281	10.0	1628	64.3
1.55	6.0	98.2	520	29.0	794.3	38.1	6.501	9.1	1664	65.1
1.55	6.0	98.2	520	30.0	1000.0	38.3	6.699	8.3	1697	65.8

Input-Output Characteristics Vds＝6.0V, Ibias=300mA - Condition 1

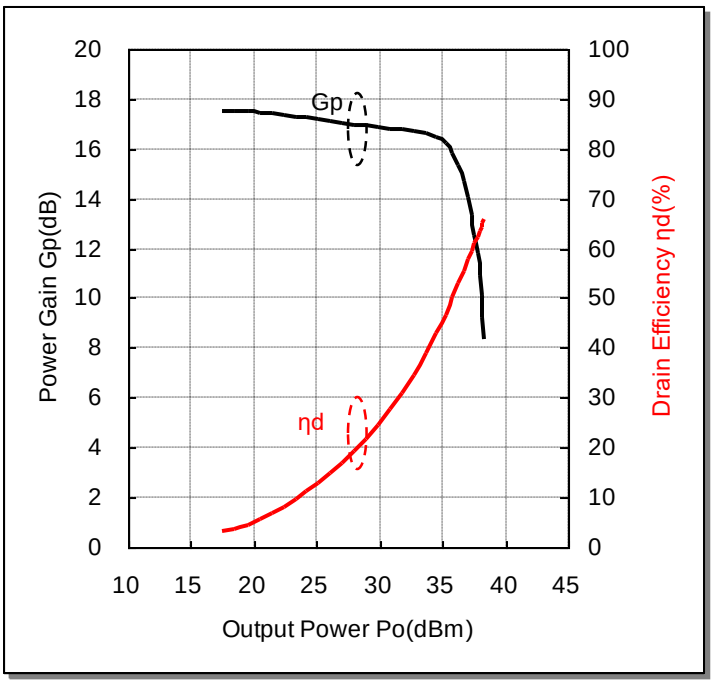
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=295.0mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=6.0V, Ibias=295.0mA

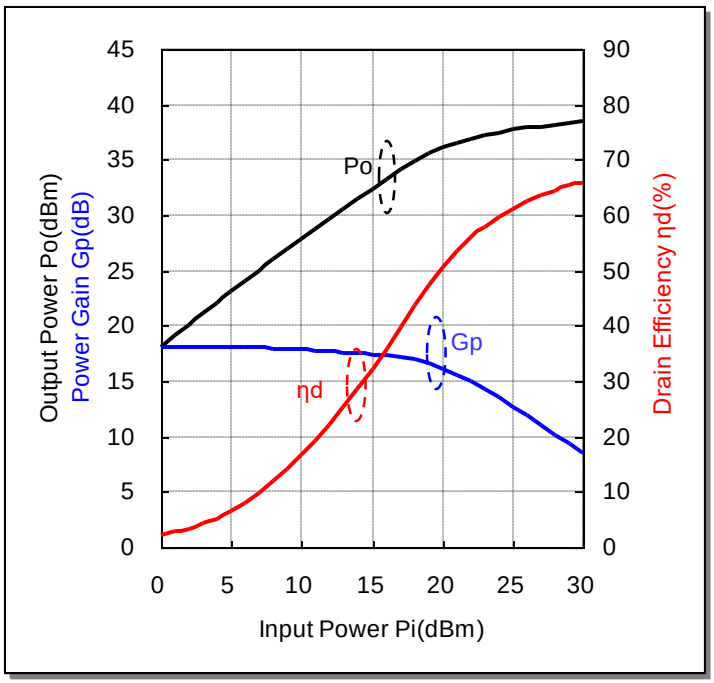
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.73	6.0	295.0	520	0.0	1.0	17.5	0.057	17.5	311	3.0
1.73	6.0	295.0	520	1.0	1.3	18.5	0.071	17.5	314	3.8
1.73	6.0	295.0	520	2.0	1.6	19.5	0.089	17.5	321	4.6
1.73	6.0	295.0	520	3.0	2.0	20.5	0.111	17.5	328	5.6
1.73	6.0	295.0	520	4.0	2.5	21.4	0.139	17.4	337	6.9
1.73	6.0	295.0	520	5.0	3.2	22.4	0.173	17.4	352	8.2
1.73	6.0	295.0	520	6.0	4.0	23.3	0.214	17.3	368	9.7
1.73	6.0	295.0	520	7.0	5.0	24.2	0.265	17.2	391	11.3
1.73	6.0	295.0	520	8.0	6.3	25.2	0.328	17.2	421	13.0
1.73	6.0	295.0	520	9.0	7.9	26.1	0.406	17.1	455	14.9
1.73	6.0	295.0	520	10.0	10.0	27.0	0.505	17.0	495	17.0
1.73	6.0	295.0	520	11.0	12.6	28.0	0.625	17.0	543	19.2
1.73	6.0	295.0	520	12.0	15.8	28.9	0.778	16.9	597	21.7
1.73	6.0	295.0	520	13.0	20.0	29.8	0.964	16.8	657	24.4
1.73	6.0	295.0	520	14.0	25.1	30.8	1.199	16.8	727	27.5
1.73	6.0	295.0	520	15.0	31.6	31.8	1.496	16.8	806	30.9
1.73	6.0	295.0	520	16.0	39.8	32.7	1.862	16.7	895	34.7
1.73	6.0	295.0	520	17.0	50.1	33.6	2.307	16.6	992	38.8
1.73	6.0	295.0	520	18.0	63.1	34.5	2.805	16.5	1091	42.9
1.73	6.0	295.0	520	19.0	79.4	35.2	3.327	16.2	1187	46.7
1.73	6.0	295.0	520	20.0	100.0	35.8	3.828	15.8	1272	50.2
1.73	6.0	295.0	520	21.0	125.9	36.3	4.276	15.3	1344	53.0
1.73	6.0	295.0	520	22.0	158.5	36.7	4.699	14.7	1408	55.6
1.73	6.0	295.0	520	23.0	199.5	37.0	5.070	14.0	1464	57.7
1.73	6.0	295.0	520	24.0	251.2	37.3	5.395	13.3	1513	59.4
1.73	6.0	295.0	520	25.0	316.2	37.6	5.715	12.6	1559	61.1
1.73	6.0	295.0	520	26.0	398.1	37.8	5.984	11.8	1599	62.4
1.73	6.0	295.0	520	27.0	501.2	37.9	6.223	10.9	1636	63.4
1.73	6.0	295.0	520	28.0	631.0	38.1	6.442	10.1	1670	64.3
1.73	6.0	295.0	520	29.0	794.3	38.2	6.653	9.2	1702	65.1
1.73	6.0	295.0	520	30.0	1000.0	38.3	6.839	8.3	1731	65.8

Input-Output Characteristics Vds＝6.0V, Ibias=500mA - Condition 1

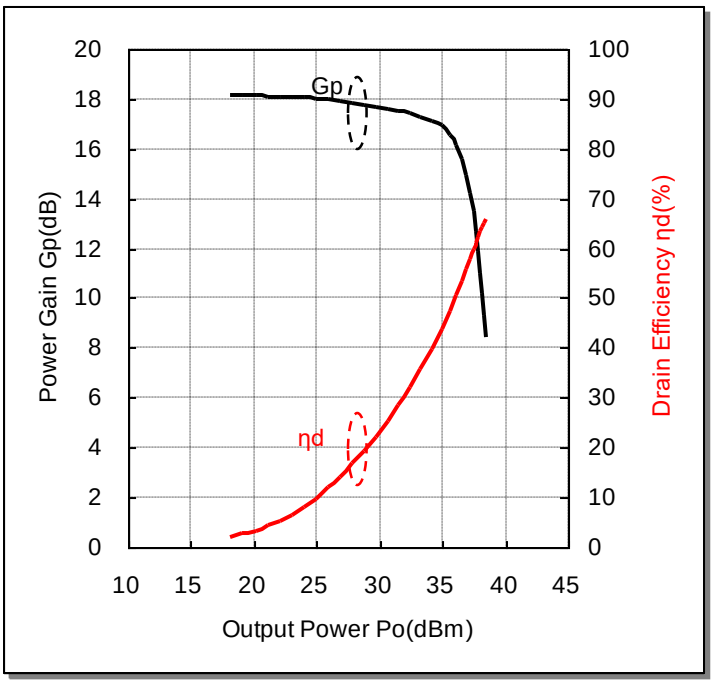
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=493.6mA,

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=6.0V, Ibias=493.6mA

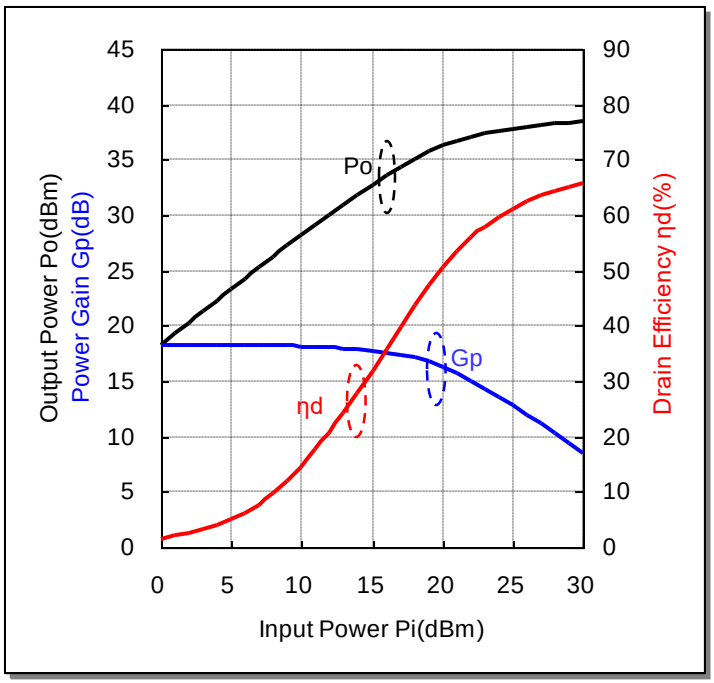
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.87	6.0	493.6	520	0.0	1.0	18.1	0.065	18.1	501	2.2
1.87	6.0	493.6	520	1.0	1.3	19.1	0.082	18.1	502	2.7
1.87	6.0	493.6	520	2.0	1.6	20.1	0.103	18.1	504	3.4
1.87	6.0	493.6	520	3.0	2.0	21.1	0.129	18.1	508	4.2
1.87	6.0	493.6	520	4.0	2.5	22.1	0.161	18.1	514	5.2
1.87	6.0	493.6	520	5.0	3.2	23.1	0.202	18.1	520	6.5
1.87	6.0	493.6	520	6.0	4.0	24.0	0.254	18.0	527	8.0
1.87	6.0	493.6	520	7.0	5.0	25.0	0.318	18.0	541	9.8
1.87	6.0	493.6	520	8.0	6.3	26.0	0.396	18.0	556	11.9
1.87	6.0	493.6	520	9.0	7.9	26.9	0.489	17.9	578	14.1
1.87	6.0	493.6	520	10.0	10.0	27.9	0.610	17.9	609	16.7
1.87	6.0	493.6	520	11.0	12.6	28.8	0.750	17.8	649	19.3
1.87	6.0	493.6	520	12.0	15.8	29.7	0.931	17.7	701	22.2
1.87	6.0	493.6	520	13.0	20.0	30.6	1.153	17.6	762	25.2
1.87	6.0	493.6	520	14.0	25.1	31.5	1.416	17.5	830	28.4
1.87	6.0	493.6	520	15.0	31.6	32.4	1.746	17.4	909	32.0
1.87	6.0	493.6	520	16.0	39.8	33.3	2.133	17.3	994	35.8
1.87	6.0	493.6	520	17.0	50.1	34.1	2.594	17.1	1085	39.9
1.87	6.0	493.6	520	18.0	63.1	34.9	3.097	16.9	1180	43.7
1.87	6.0	493.6	520	19.0	79.4	35.6	3.606	16.6	1267	47.4
1.87	6.0	493.6	520	20.0	100.0	36.1	4.083	16.1	1345	50.6
1.87	6.0	493.6	520	21.0	125.9	36.5	4.519	15.5	1409	53.4
1.87	6.0	493.6	520	22.0	158.5	36.9	4.920	14.9	1467	55.9
1.87	6.0	493.6	520	23.0	199.5	37.2	5.272	14.2	1517	57.9
1.87	6.0	493.6	520	24.0	251.2	37.5	5.610	13.5	1563	59.8
1.87	6.0	493.6	520	25.0	316.2	37.7	5.875	12.7	1602	61.1
1.87	6.0	493.6	520	26.0	398.1	37.9	6.138	11.9	1638	62.4
1.87	6.0	493.6	520	27.0	501.2	38.0	6.368	11.0	1671	63.5
1.87	6.0	493.6	520	28.0	631.0	38.2	6.577	10.2	1702	64.4
1.87	6.0	493.6	520	29.0	794.3	38.3	6.776	9.3	1731	65.3
1.87	6.0	493.6	520	30.0	1000.0	38.4	6.950	8.4	1757	65.9

Input-Output Characteristics Vds＝6.0V, Ibias=700mA - Condition 1

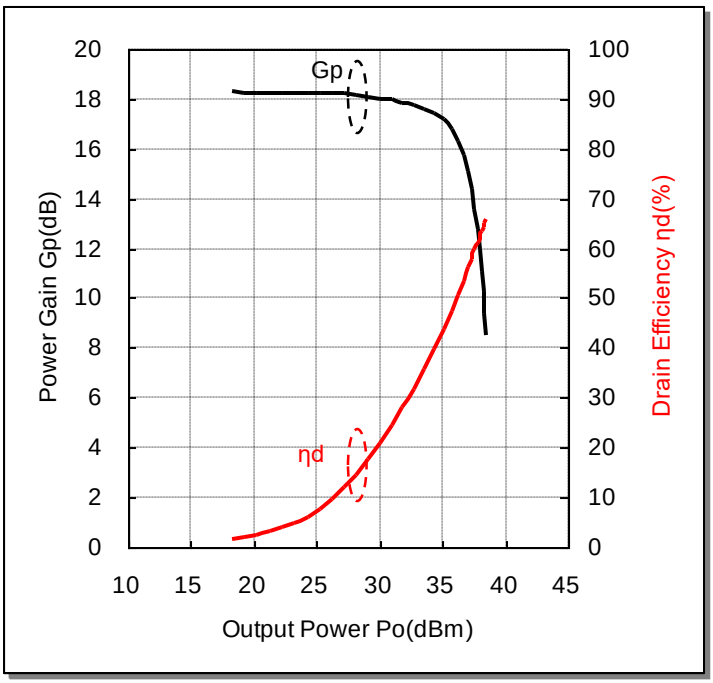
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=689.4mA,

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=6.0V, Ibias=689.4mA

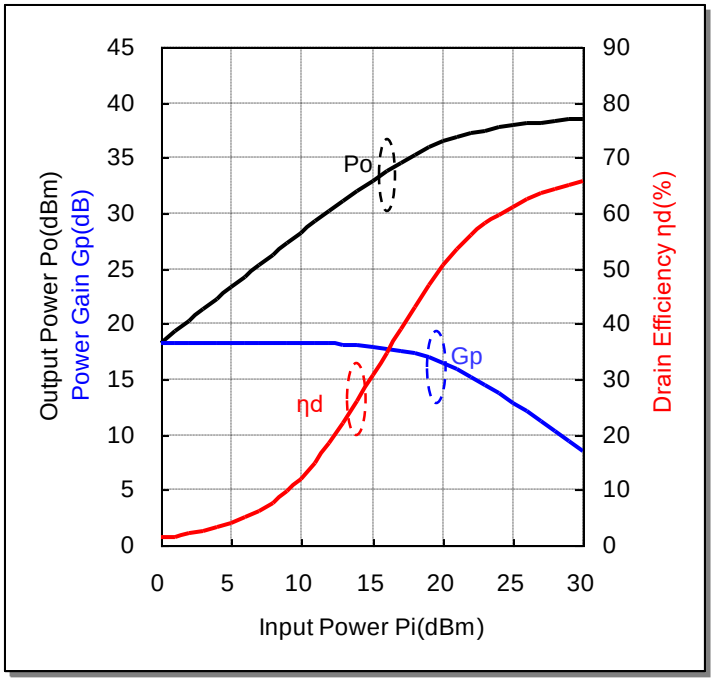
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.99	6.0	689.4	520	0.0	1.0	18.3	0.068	18.3	696	1.6
1.99	6.0	689.4	520	1.0	1.3	19.3	0.084	18.3	699	2.0
1.99	6.0	689.4	520	2.0	1.6	20.3	0.106	18.3	698	2.5
1.99	6.0	689.4	520	3.0	2.0	21.3	0.134	18.3	701	3.2
1.99	6.0	689.4	520	4.0	2.5	22.3	0.168	18.3	703	4.0
1.99	6.0	689.4	520	5.0	3.2	23.3	0.211	18.3	706	5.0
1.99	6.0	689.4	520	6.0	4.0	24.2	0.265	18.2	712	6.2
1.99	6.0	689.4	520	7.0	5.0	25.2	0.333	18.2	718	7.7
1.99	6.0	689.4	520	8.0	6.3	26.2	0.418	18.2	724	9.6
1.99	6.0	689.4	520	9.0	7.9	27.2	0.525	18.2	734	11.9
1.99	6.0	689.4	520	10.0	10.0	28.1	0.649	18.1	750	14.4
1.99	6.0	689.4	520	11.0	12.6	29.1	0.813	18.1	772	17.5
1.99	6.0	689.4	520	12.0	15.8	30.0	1.005	18.0	806	20.8
1.99	6.0	689.4	520	13.0	20.0	31.0	1.250	18.0	855	24.4
1.99	6.0	689.4	520	14.0	25.1	31.9	1.538	17.9	917	28.0
1.99	6.0	689.4	520	15.0	31.6	32.8	1.888	17.8	990	31.8
1.99	6.0	689.4	520	16.0	39.8	33.6	2.301	17.6	1073	35.7
1.99	6.0	689.4	520	17.0	50.1	34.4	2.754	17.4	1159	39.6
1.99	6.0	689.4	520	18.0	63.1	35.2	3.273	17.2	1249	43.7
1.99	6.0	689.4	520	19.0	79.4	35.8	3.784	16.8	1332	47.3
1.99	6.0	689.4	520	20.0	100.0	36.3	4.276	16.3	1405	50.7
1.99	6.0	689.4	520	21.0	125.9	36.7	4.710	15.7	1466	53.6
1.99	6.0	689.4	520	22.0	158.5	37.1	5.105	15.1	1519	56.0
1.99	6.0	689.4	520	23.0	199.5	37.4	5.445	14.4	1565	58.0
1.99	6.0	689.4	520	24.0	251.2	37.6	5.754	13.6	1605	59.8
1.99	6.0	689.4	520	25.0	316.2	37.8	6.026	12.8	1640	61.2
1.99	6.0	689.4	520	26.0	398.1	38.0	6.266	12.0	1672	62.5
1.99	6.0	689.4	520	27.0	501.2	38.1	6.486	11.1	1702	63.5
1.99	6.0	689.4	520	28.0	631.0	38.3	6.683	10.3	1730	64.4
1.99	6.0	689.4	520	29.0	794.3	38.4	6.855	9.4	1755	65.1
1.99	6.0	689.4	520	30.0	1000.0	38.5	7.047	8.5	1782	65.9

Input-Output Characteristics Vds＝6.0V, Ibias=900mA - Condition 1

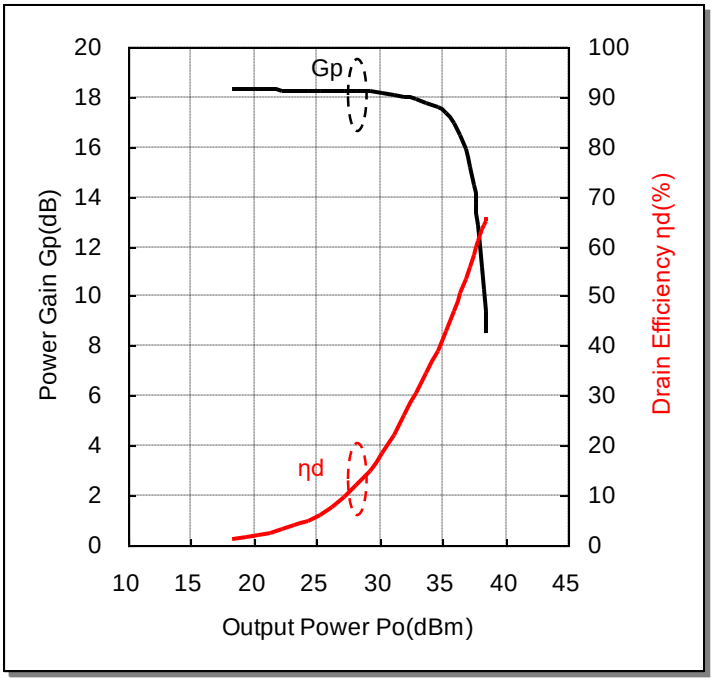
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=885.0mA,

Power Gain, Drain Efficiency vs Output Power

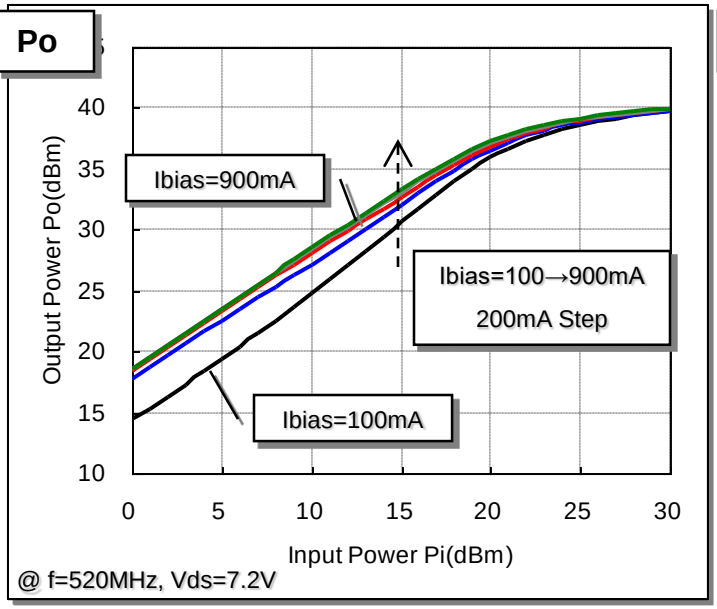


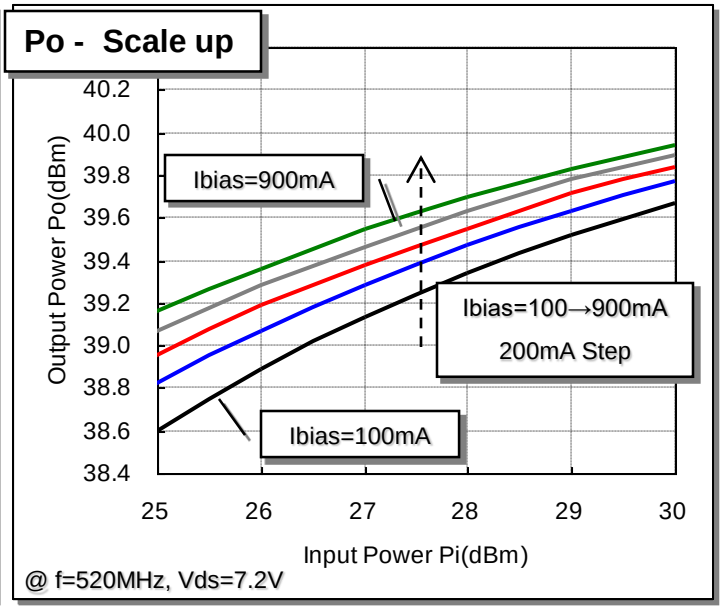
@ f=520MHz, Vds=6.0V, Ibias=885.0mA

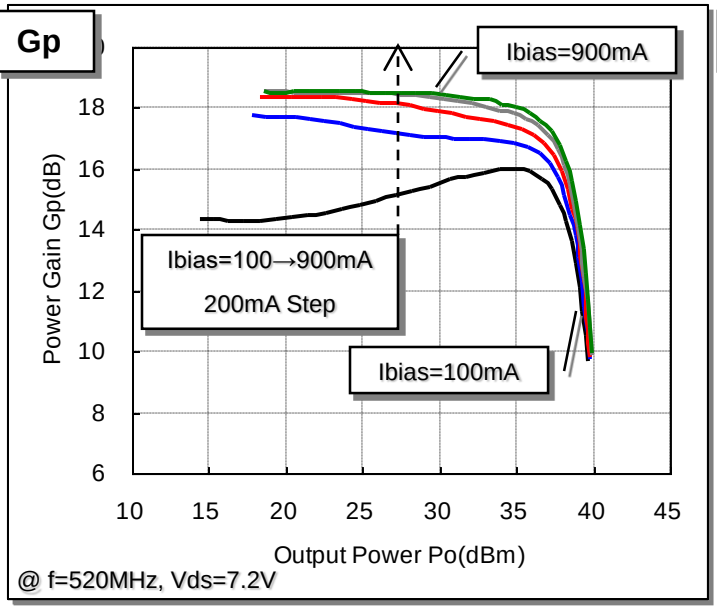
Data

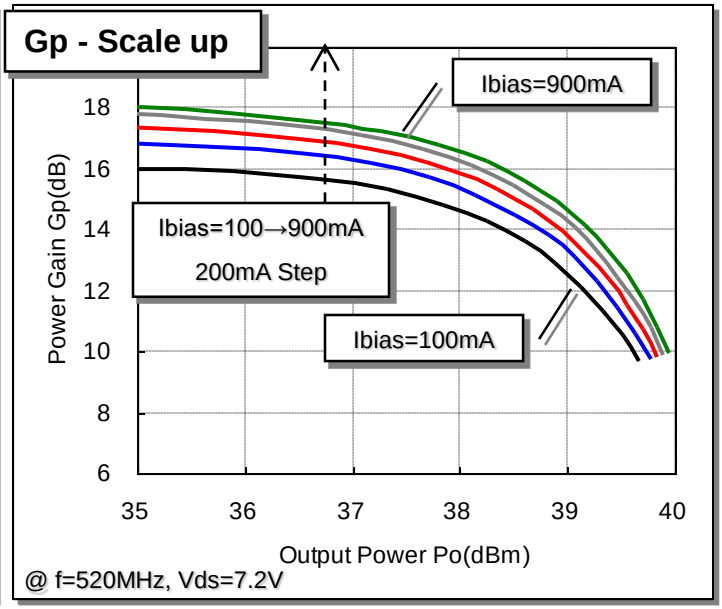
Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.10	6.0	885.0	520	0.0	1.0	18.3	0.068	18.3	887	1.3
2.10	6.0	885.0	520	1.0	1.3	19.3	0.085	18.3	886	1.6
2.10	6.0	885.0	520	2.0	1.6	20.3	0.107	18.3	888	2.0
2.10	6.0	885.0	520	3.0	2.0	21.3	0.134	18.3	891	2.5
2.10	6.0	885.0	520	4.0	2.5	22.3	0.169	18.3	889	3.2
2.10	6.0	885.0	520	5.0	3.2	23.3	0.212	18.3	894	3.9
2.10	6.0	885.0	520	6.0	4.0	24.3	0.267	18.3	896	5.0
2.10	6.0	885.0	520	7.0	5.0	25.3	0.335	18.3	899	6.2
2.10	6.0	885.0	520	8.0	6.3	26.2	0.420	18.2	902	7.8
2.10	6.0	885.0	520	9.0	7.9	27.2	0.528	18.2	909	9.7
2.10	6.0	885.0	520	10.0	10.0	28.2	0.662	18.2	918	12.0
2.10	6.0	885.0	520	11.0	12.6	29.2	0.832	18.2	930	14.9
2.10	6.0	885.0	520	12.0	15.8	30.2	1.040	18.2	948	18.3
2.10	6.0	885.0	520	13.0	20.0	31.1	1.291	18.1	973	22.1
2.10	6.0	885.0	520	14.0	25.1	32.0	1.589	18.0	1011	26.2
2.10	6.0	885.0	520	15.0	31.6	33.0	1.972	18.0	1074	30.6
2.10	6.0	885.0	520	16.0	39.8	33.8	2.382	17.8	1146	34.6
2.10	6.0	885.0	520	17.0	50.1	34.6	2.884	17.6	1230	39.1
2.10	6.0	885.0	520	18.0	63.1	35.3	3.396	17.3	1312	43.2
2.10	6.0	885.0	520	19.0	79.4	36.0	3.936	17.0	1393	47.1
2.10	6.0	885.0	520	20.0	100.0	36.5	4.426	16.5	1461	50.5
2.10	6.0	885.0	520	21.0	125.9	36.9	4.864	15.9	1516	53.5
2.10	6.0	885.0	520	22.0	158.5	37.2	5.260	15.2	1566	56.0
2.10	6.0	885.0	520	23.0	199.5	37.5	5.598	14.5	1607	58.1
2.10	6.0	885.0	520	24.0	251.2	37.7	5.888	13.7	1642	59.8
2.10	6.0	885.0	520	25.0	316.2	37.9	6.152	12.9	1674	61.2
2.10	6.0	885.0	520	26.0	398.1	38.0	6.383	12.0	1704	62.4
2.10	6.0	885.0	520	27.0	501.2	38.2	6.592	11.2	1730	63.5
2.10	6.0	885.0	520	28.0	631.0	38.3	6.776	10.3	1755	64.4
2.10	6.0	885.0	520	29.0	794.3	38.4	6.966	9.4	1781	65.2
2.10	6.0	885.0	520	30.0	1000.0	38.5	7.129	8.5	1802	65.9

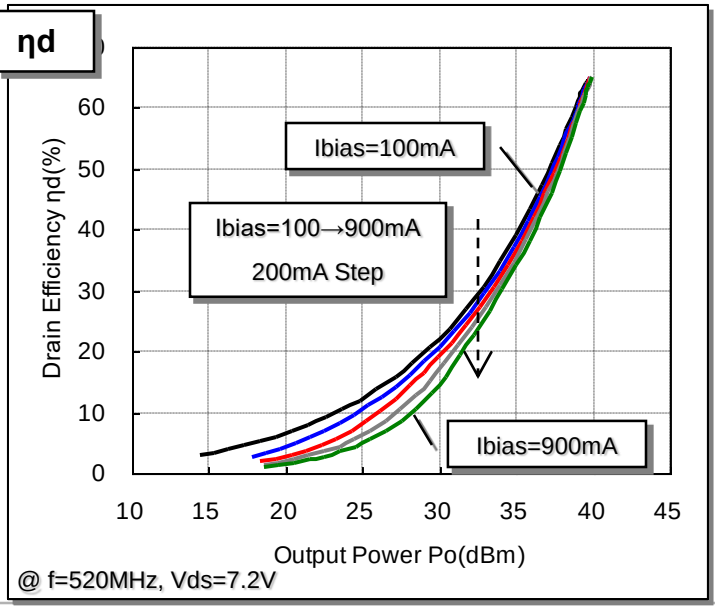
Input - Output Characteristics Vds =7.2V - Condition 1

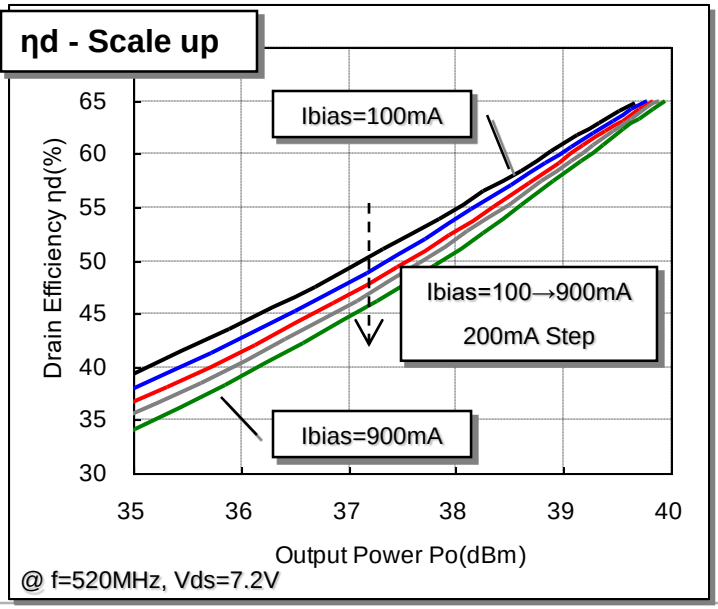








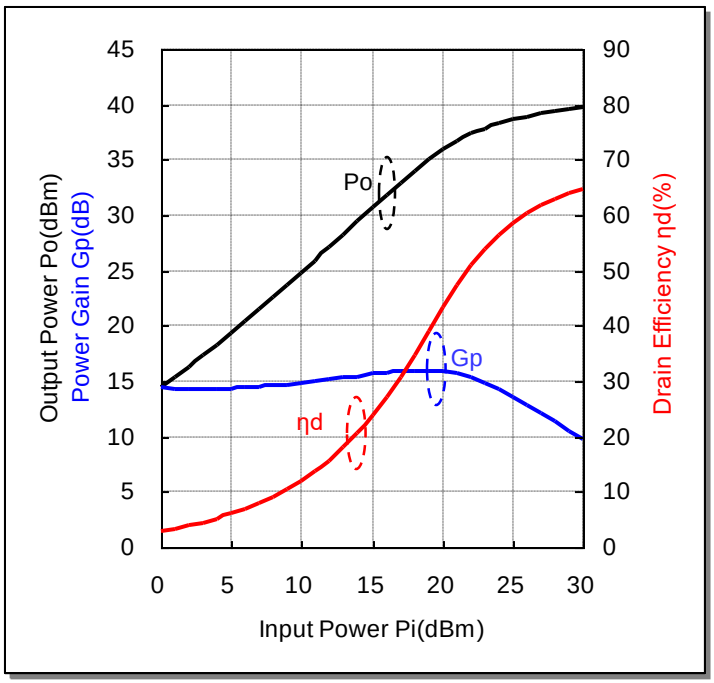




Input-Output Characteristics Vds＝7.2V, Ibias=100mA - Condition 1

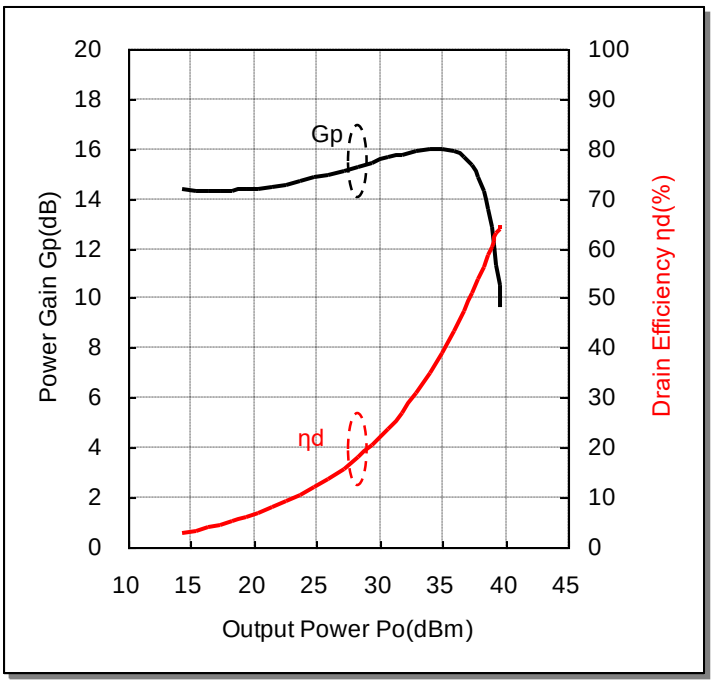
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=7.2V, Ibias=101.2mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=7.2V, Ibias=101.2mA

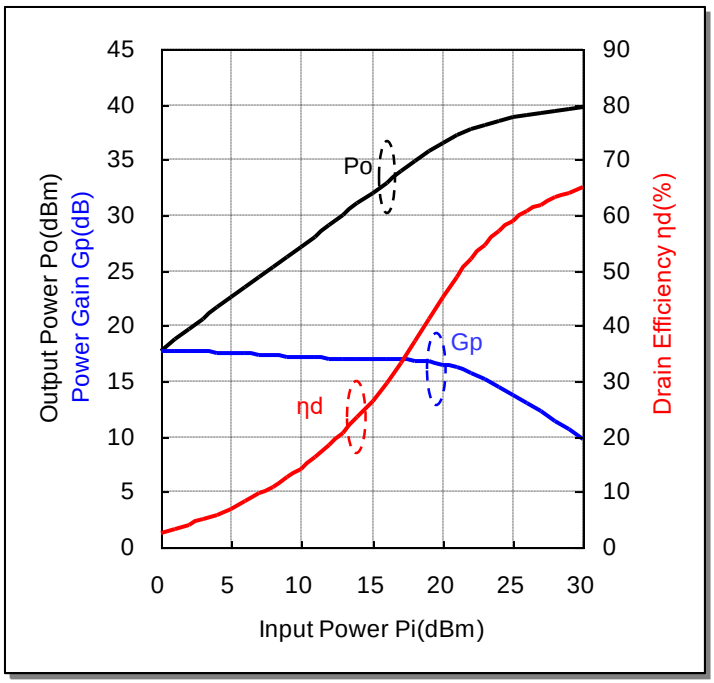
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.52	7.2	101.2	520	0.0	1.0	14.4	0.027	14.4	135	2.8
1.52	7.2	101.2	520	1.0	1.3	15.3	0.034	14.3	143	3.3
1.52	7.2	101.2	520	2.0	1.6	16.3	0.043	14.3	152	3.9
1.52	7.2	101.2	520	3.0	2.0	17.3	0.054	14.3	166	4.5
1.52	7.2	101.2	520	4.0	2.5	18.3	0.068	14.3	180	5.2
1.52	7.2	101.2	520	5.0	3.2	19.3	0.086	14.3	200	6.0
1.52	7.2	101.2	520	6.0	4.0	20.4	0.109	14.4	221	6.9
1.52	7.2	101.2	520	7.0	5.0	21.5	0.140	14.5	246	7.9
1.52	7.2	101.2	520	8.0	6.3	22.6	0.180	14.6	275	9.1
1.52	7.2	101.2	520	9.0	7.9	23.7	0.233	14.7	311	10.4
1.52	7.2	101.2	520	10.0	10.0	24.8	0.303	14.8	353	11.9
1.52	7.2	101.2	520	11.0	12.6	25.9	0.392	14.9	398	13.7
1.52	7.2	101.2	520	12.0	15.8	27.1	0.514	15.1	456	15.7
1.52	7.2	101.2	520	13.0	20.0	28.3	0.673	15.3	519	18.0
1.52	7.2	101.2	520	14.0	25.1	29.4	0.875	15.4	591	20.6
1.52	7.2	101.2	520	15.0	31.6	30.6	1.159	15.6	678	23.7
1.52	7.2	101.2	520	16.0	39.8	31.8	1.496	15.8	769	27.0
1.52	7.2	101.2	520	17.0	50.1	32.9	1.941	15.9	877	30.7
1.52	7.2	101.2	520	18.0	63.1	34.0	2.489	16.0	993	34.8
1.52	7.2	101.2	520	19.0	79.4	35.0	3.148	16.0	1117	39.1
1.52	7.2	101.2	520	20.0	100.0	35.9	3.890	15.9	1244	43.4
1.52	7.2	101.2	520	21.0	125.9	36.7	4.667	15.7	1366	47.5
1.52	7.2	101.2	520	22.0	158.5	37.3	5.408	15.3	1474	50.9
1.52	7.2	101.2	520	23.0	199.5	37.8	6.081	14.8	1567	53.9
1.52	7.2	101.2	520	24.0	251.2	38.3	6.699	14.3	1649	56.4
1.52	7.2	101.2	520	25.0	316.2	38.6	7.244	13.6	1721	58.5
1.52	7.2	101.2	520	26.0	398.1	38.9	7.745	12.9	1787	60.2
1.52	7.2	101.2	520	27.0	501.2	39.1	8.185	12.1	1844	61.6
1.52	7.2	101.2	520	28.0	631.0	39.3	8.590	11.3	1897	62.9
1.52	7.2	101.2	520	29.0	794.3	39.5	8.954	10.5	1945	64.0
1.52	7.2	101.2	520	30.0	1000.0	39.7	9.268	9.7	1988	64.8

Input-Output Characteristics Vds=7.2V, Ibias=300mA - Condition 1

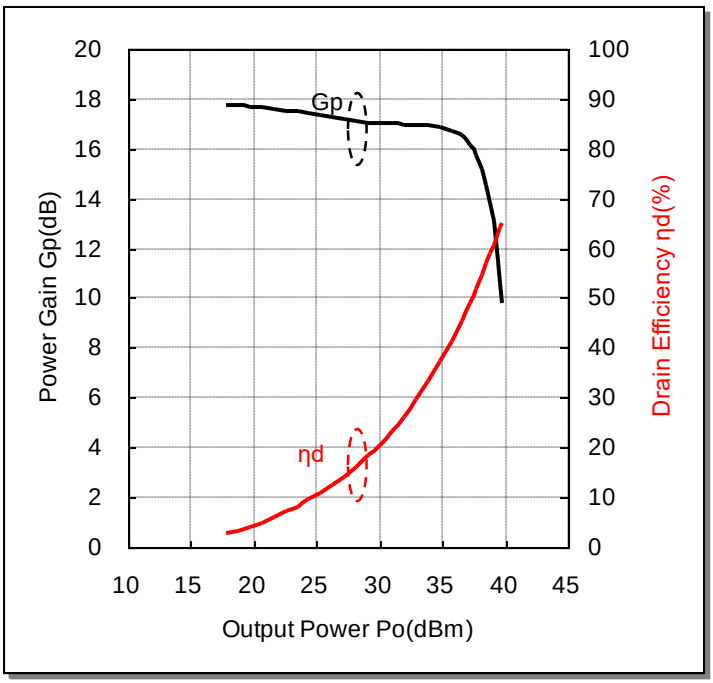
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=7.2V, Ibias=296.0mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=7.2V, Ibias=296.0mA

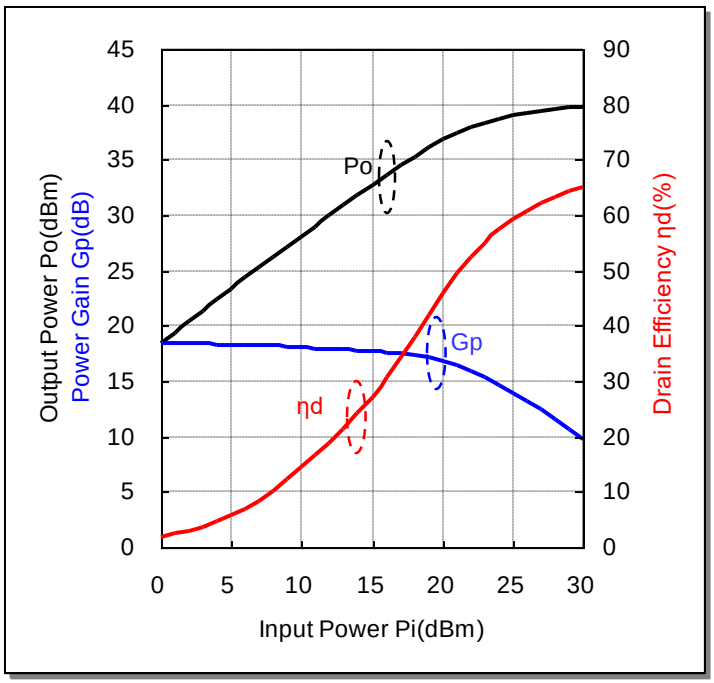
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.70	7.2	296.0	520	0.0	1.0	17.8	0.060	17.8	313	2.6
1.70	7.2	296.0	520	1.0	1.3	18.7	0.074	17.7	316	3.3
1.70	7.2	296.0	520	2.0	1.6	19.7	0.093	17.7	323	4.0
1.70	7.2	296.0	520	3.0	2.0	20.7	0.117	17.7	330	4.9
1.70	7.2	296.0	520	4.0	2.5	21.6	0.145	17.6	342	5.9
1.70	7.2	296.0	520	5.0	3.2	22.5	0.180	17.5	355	7.0
1.70	7.2	296.0	520	6.0	4.0	23.5	0.222	17.5	376	8.2
1.70	7.2	296.0	520	7.0	5.0	24.4	0.275	17.4	398	9.6
1.70	7.2	296.0	520	8.0	6.3	25.3	0.340	17.3	428	11.0
1.70	7.2	296.0	520	9.0	7.9	26.2	0.420	17.2	463	12.6
1.70	7.2	296.0	520	10.0	10.0	27.1	0.519	17.1	506	14.2
1.70	7.2	296.0	520	11.0	12.6	28.1	0.646	17.1	554	16.2
1.70	7.2	296.0	520	12.0	15.8	29.0	0.802	17.0	609	18.3
1.70	7.2	296.0	520	13.0	20.0	30.0	1.002	17.0	674	20.6
1.70	7.2	296.0	520	14.0	25.1	31.0	1.259	17.0	747	23.4
1.70	7.2	296.0	520	15.0	31.6	32.0	1.570	17.0	829	26.3
1.70	7.2	296.0	520	16.0	39.8	33.0	1.972	17.0	923	29.7
1.70	7.2	296.0	520	17.0	50.1	33.9	2.466	16.9	1028	33.3
1.70	7.2	296.0	520	18.0	63.1	34.9	3.069	16.9	1143	37.3
1.70	7.2	296.0	520	19.0	79.4	35.7	3.733	16.7	1257	41.3
1.70	7.2	296.0	520	20.0	100.0	36.5	4.477	16.5	1376	45.2
1.70	7.2	296.0	520	21.0	125.9	37.2	5.224	16.2	1485	48.9
1.70	7.2	296.0	520	22.0	158.5	37.7	5.902	15.7	1577	52.0
1.70	7.2	296.0	520	23.0	199.5	38.2	6.531	15.2	1657	54.7
1.70	7.2	296.0	520	24.0	251.2	38.5	7.096	14.5	1729	57.0
1.70	7.2	296.0	520	25.0	316.2	38.8	7.621	13.8	1793	59.0
1.70	7.2	296.0	520	26.0	398.1	39.1	8.072	13.1	1849	60.6
1.70	7.2	296.0	520	27.0	501.2	39.3	8.472	12.3	1901	61.9
1.70	7.2	296.0	520	28.0	631.0	39.5	8.851	11.5	1947	63.1
1.70	7.2	296.0	520	29.0	794.3	39.6	9.183	10.6	1989	64.1
1.70	7.2	296.0	520	30.0	1000.0	39.8	9.484	9.8	2029	64.9

Input-Output Characteristics Vds=7.2V, Ibias=500mA - Condition 1

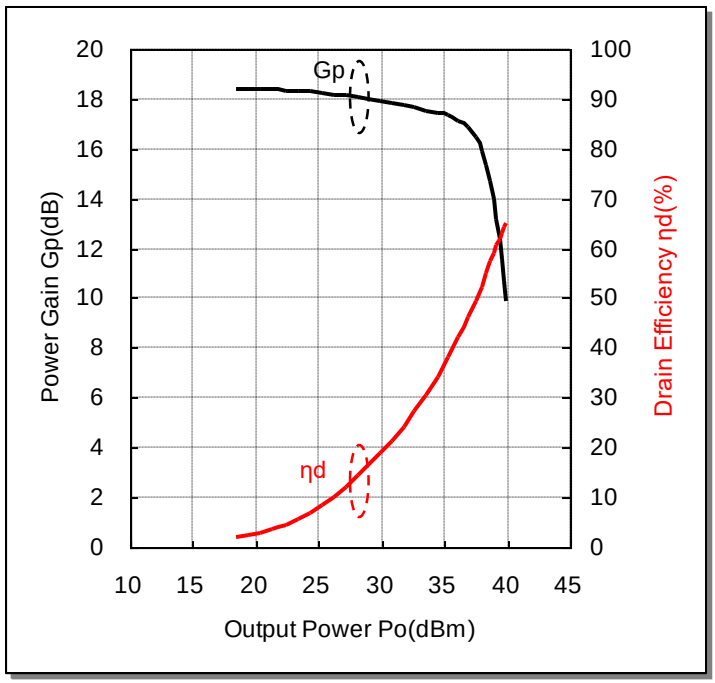
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=7.2V, Ibias=497.1mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=7.2V, Ibias=497.1mA

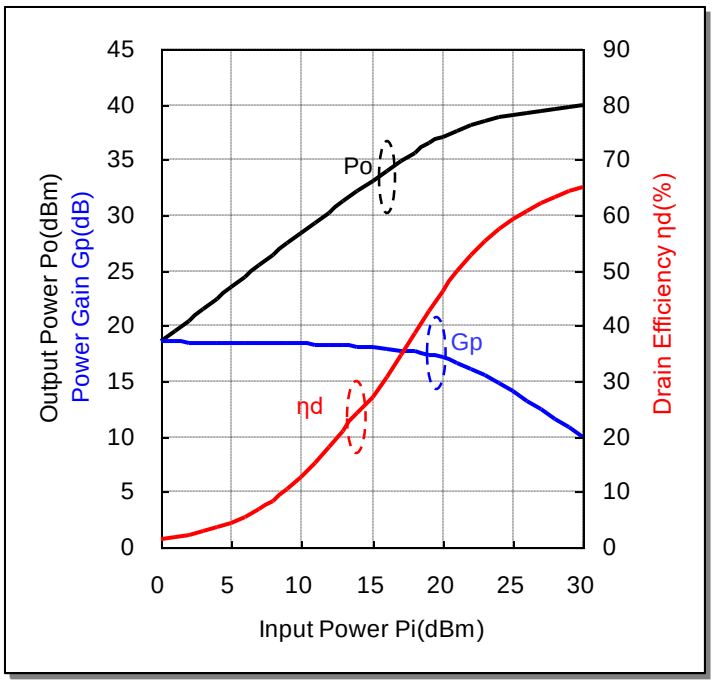
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.84	7.2	497.1	520	0.0	1.0	18.4	0.069	18.4	506	1.9
1.84	7.2	497.1	520	1.0	1.3	19.4	0.086	18.4	507	2.4
1.84	7.2	497.1	520	2.0	1.6	20.4	0.109	18.4	512	2.9
1.84	7.2	497.1	520	3.0	2.0	21.4	0.137	18.4	515	3.7
1.84	7.2	497.1	520	4.0	2.5	22.3	0.171	18.3	519	4.6
1.84	7.2	497.1	520	5.0	3.2	23.3	0.215	18.3	525	5.7
1.84	7.2	497.1	520	6.0	4.0	24.3	0.270	18.3	537	7.0
1.84	7.2	497.1	520	7.0	5.0	25.2	0.333	18.2	546	8.5
1.84	7.2	497.1	520	8.0	6.3	26.2	0.416	18.2	565	10.2
1.84	7.2	497.1	520	9.0	7.9	27.1	0.518	18.1	589	12.2
1.84	7.2	497.1	520	10.0	10.0	28.1	0.644	18.1	623	14.4
1.84	7.2	497.1	520	11.0	12.6	29.0	0.791	18.0	666	16.5
1.84	7.2	497.1	520	12.0	15.8	29.9	0.979	17.9	719	18.9
1.84	7.2	497.1	520	13.0	20.0	30.8	1.211	17.8	783	21.5
1.84	7.2	497.1	520	14.0	25.1	31.7	1.489	17.7	854	24.2
1.84	7.2	497.1	520	15.0	31.6	32.6	1.837	17.6	935	27.3
1.84	7.2	497.1	520	16.0	39.8	33.5	2.259	17.5	1026	30.6
1.84	7.2	497.1	520	17.0	50.1	34.5	2.786	17.5	1129	34.3
1.84	7.2	497.1	520	18.0	63.1	35.3	3.404	17.3	1240	38.1
1.84	7.2	497.1	520	19.0	79.4	36.1	4.102	17.1	1354	42.1
1.84	7.2	497.1	520	20.0	100.0	36.9	4.853	16.9	1465	46.0
1.84	7.2	497.1	520	21.0	125.9	37.5	5.559	16.5	1563	49.4
1.84	7.2	497.1	520	22.0	158.5	37.9	6.223	15.9	1650	52.4
1.84	7.2	497.1	520	23.0	199.5	38.3	6.823	15.3	1722	55.0
1.84	7.2	497.1	520	24.0	251.2	38.7	7.379	14.7	1788	57.3
1.84	7.2	497.1	520	25.0	316.2	39.0	7.852	14.0	1844	59.1
1.84	7.2	497.1	520	26.0	398.1	39.2	8.299	13.2	1895	60.8
1.84	7.2	497.1	520	27.0	501.2	39.4	8.670	12.4	1941	62.0
1.84	7.2	497.1	520	28.0	631.0	39.5	9.016	11.5	1983	63.1
1.84	7.2	497.1	520	29.0	794.3	39.7	9.354	10.7	2024	64.2
1.84	7.2	497.1	520	30.0	1000.0	39.8	9.638	9.8	2059	65.0

Input-Output Characteristics Vds=7.2V, Ibias=700mA - Condition 1

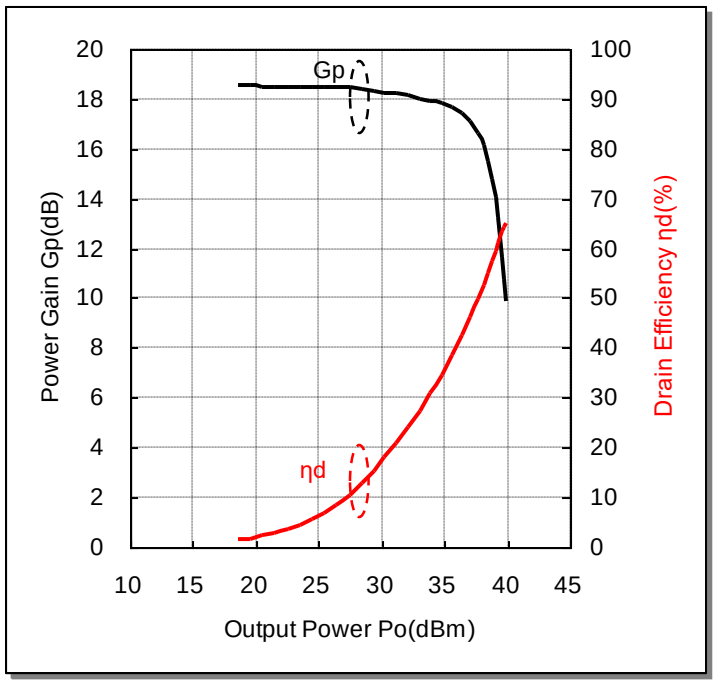
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=7.2V, Ibias=688.7mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=7.2V, Ibias=688.7mA

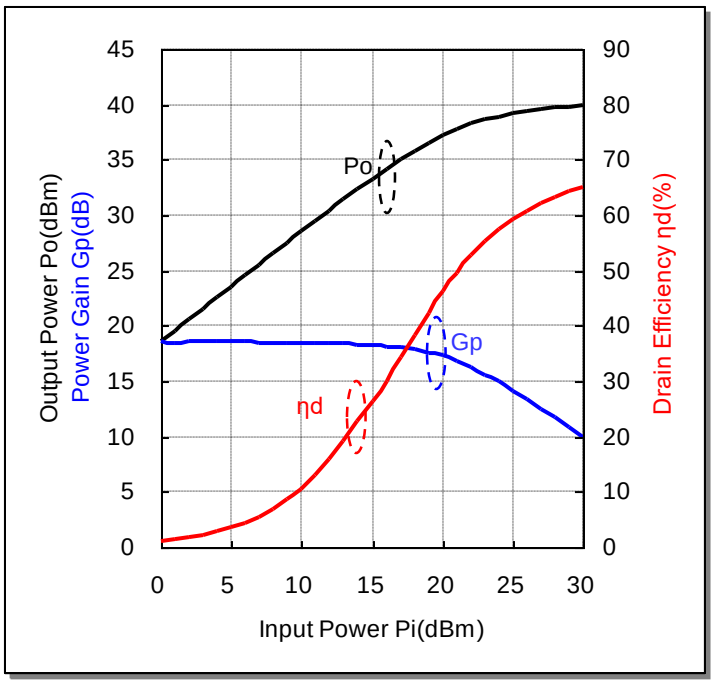
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.95	7.2	688.7	520	0.0	1.0	18.5	0.072	18.5	692	1.4
1.95	7.2	688.7	520	1.0	1.3	19.5	0.090	18.5	695	1.8
1.95	7.2	688.7	520	2.0	1.6	20.5	0.112	18.5	697	2.2
1.95	7.2	688.7	520	3.0	2.0	21.5	0.142	18.5	698	2.8
1.95	7.2	688.7	520	4.0	2.5	22.5	0.178	18.5	702	3.5
1.95	7.2	688.7	520	5.0	3.2	23.5	0.223	18.5	706	4.4
1.95	7.2	688.7	520	6.0	4.0	24.5	0.281	18.5	710	5.5
1.95	7.2	688.7	520	7.0	5.0	25.5	0.353	18.5	718	6.8
1.95	7.2	688.7	520	8.0	6.3	26.5	0.443	18.5	727	8.5
1.95	7.2	688.7	520	9.0	7.9	27.4	0.555	18.4	738	10.4
1.95	7.2	688.7	520	10.0	10.0	28.4	0.695	18.4	755	12.8
1.95	7.2	688.7	520	11.0	12.6	29.3	0.859	18.3	784	15.2
1.95	7.2	688.7	520	12.0	15.8	30.3	1.062	18.3	821	18.0
1.95	7.2	688.7	520	13.0	20.0	31.2	1.318	18.2	875	20.9
1.95	7.2	688.7	520	14.0	25.1	32.1	1.637	18.1	944	24.1
1.95	7.2	688.7	520	15.0	31.6	33.0	2.004	18.0	1020	27.3
1.95	7.2	688.7	520	16.0	39.8	33.9	2.466	17.9	1112	30.8
1.95	7.2	688.7	520	17.0	50.1	34.8	3.020	17.8	1211	34.6
1.95	7.2	688.7	520	18.0	63.1	35.6	3.664	17.6	1321	38.5
1.95	7.2	688.7	520	19.0	79.4	36.4	4.385	17.4	1432	42.5
1.95	7.2	688.7	520	20.0	100.0	37.1	5.117	17.1	1537	46.2
1.95	7.2	688.7	520	21.0	125.9	37.7	5.834	16.7	1630	49.7
1.95	7.2	688.7	520	22.0	158.5	38.1	6.471	16.1	1708	52.6
1.95	7.2	688.7	520	23.0	199.5	38.5	7.063	15.5	1777	55.2
1.95	7.2	688.7	520	24.0	251.2	38.8	7.586	14.8	1836	57.4
1.95	7.2	688.7	520	25.0	316.2	39.1	8.072	14.1	1888	59.4
1.95	7.2	688.7	520	26.0	398.1	39.3	8.472	13.3	1934	60.8
1.95	7.2	688.7	520	27.0	501.2	39.5	8.831	12.5	1976	62.1
1.95	7.2	688.7	520	28.0	631.0	39.6	9.183	11.6	2016	63.3
1.95	7.2	688.7	520	29.0	794.3	39.8	9.506	10.8	2053	64.3
1.95	7.2	688.7	520	30.0	1000.0	39.9	9.750	9.9	2084	65.0

Input-Output Characteristics Vds=7.2V, Ibias=900mA - Condition 1

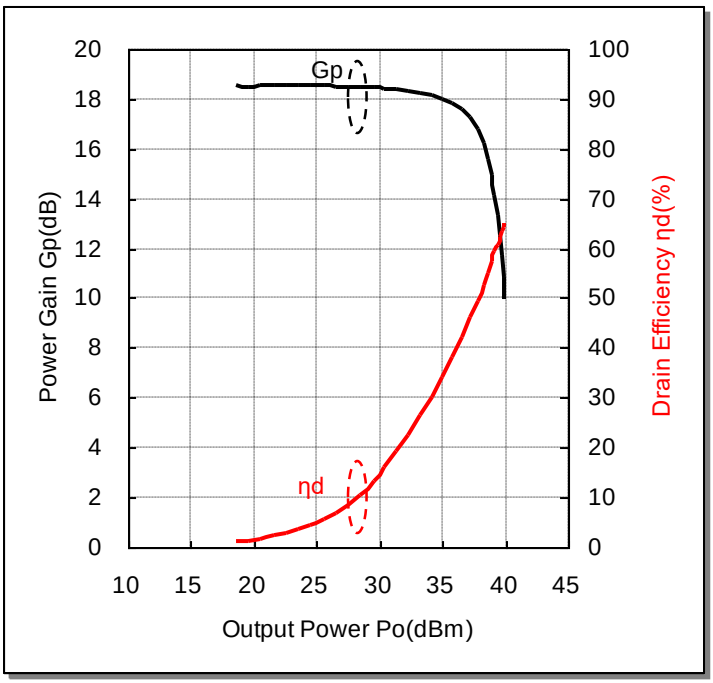
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=7.2V, Ibias=898.8mA

Power Gain, Drain Efficiency vs Output Power



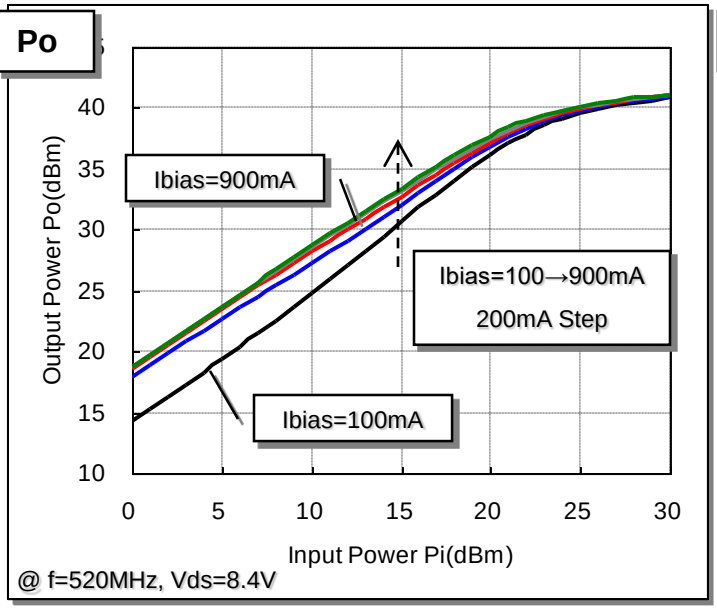
@ f=520MHz, Vds=7.2V, Ibias=898.8mA

Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.06	7.2	889.8	520	0.0	1.0	18.6	0.072	18.6	891	1.1
2.06	7.2	889.8	520	1.0	1.3	19.5	0.089	18.5	896	1.4
2.06	7.2	889.8	520	2.0	1.6	20.5	0.113	18.5	894	1.8
2.06	7.2	889.8	520	3.0	2.0	21.5	0.143	18.5	895	2.2
2.06	7.2	889.8	520	4.0	2.5	22.5	0.179	18.5	900	2.8
2.06	7.2	889.8	520	5.0	3.2	23.5	0.226	18.5	900	3.5
2.06	7.2	889.8	520	6.0	4.0	24.5	0.284	18.5	905	4.4
2.06	7.2	889.8	520	7.0	5.0	25.5	0.356	18.5	908	5.4
2.06	7.2	889.8	520	8.0	6.3	26.5	0.448	18.5	914	6.8
2.06	7.2	889.8	520	9.0	7.9	27.5	0.564	18.5	921	8.5
2.06	7.2	889.8	520	10.0	10.0	28.5	0.708	18.5	932	10.6
2.06	7.2	889.8	520	11.0	12.6	29.5	0.889	18.5	944	13.1
2.06	7.2	889.8	520	12.0	15.8	30.4	1.102	18.4	964	15.9
2.06	7.2	889.8	520	13.0	20.0	31.4	1.374	18.4	993	19.2
2.06	7.2	889.8	520	14.0	25.1	32.3	1.698	18.3	1040	22.7
2.06	7.2	889.8	520	15.0	31.6	33.3	2.118	18.3	1110	26.5
2.06	7.2	889.8	520	16.0	39.8	34.1	2.582	18.1	1191	30.1
2.06	7.2	889.8	520	17.0	50.1	35.0	3.170	18.0	1289	34.2
2.06	7.2	889.8	520	18.0	63.1	35.8	3.846	17.8	1396	38.3
2.06	7.2	889.8	520	19.0	79.4	36.6	4.550	17.6	1499	42.2
2.06	7.2	889.8	520	20.0	100.0	37.3	5.321	17.3	1603	46.1
2.06	7.2	889.8	520	21.0	125.9	37.8	6.026	16.8	1690	49.5
2.06	7.2	889.8	520	22.0	158.5	38.3	6.683	16.3	1764	52.6
2.06	7.2	889.8	520	23.0	199.5	38.6	7.261	15.6	1828	55.2
2.06	7.2	889.8	520	24.0	251.2	38.9	7.780	14.9	1882	57.4
2.06	7.2	889.8	520	25.0	316.2	39.2	8.241	14.2	1930	59.3
2.06	7.2	889.8	520	26.0	398.1	39.4	8.630	13.4	1971	60.8
2.06	7.2	889.8	520	27.0	501.2	39.5	9.016	12.5	2012	62.2
2.06	7.2	889.8	520	28.0	631.0	39.7	9.333	11.7	2047	63.3
2.06	7.2	889.8	520	29.0	794.3	39.8	9.616	10.8	2080	64.2
2.06	7.2	889.8	520	30.0	1000.0	39.9	9.863	9.9	2109	65.0

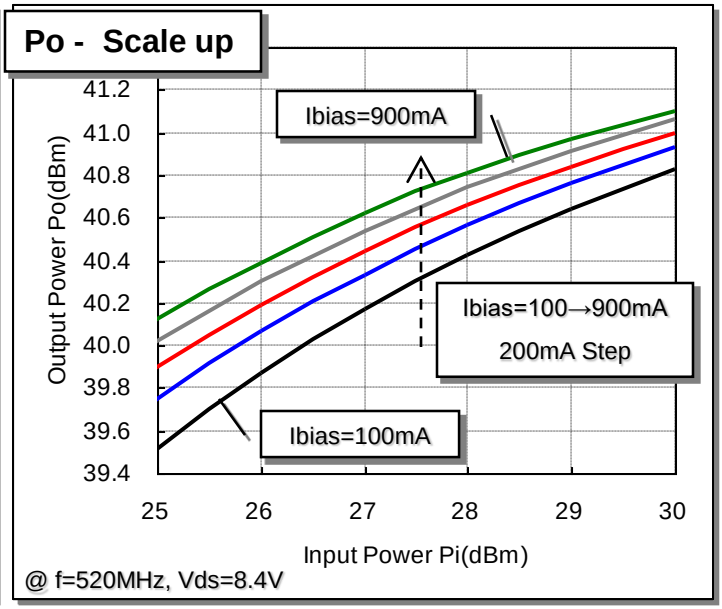
Input - Output Characteristics Vds =8.4V - Condition 1

Po



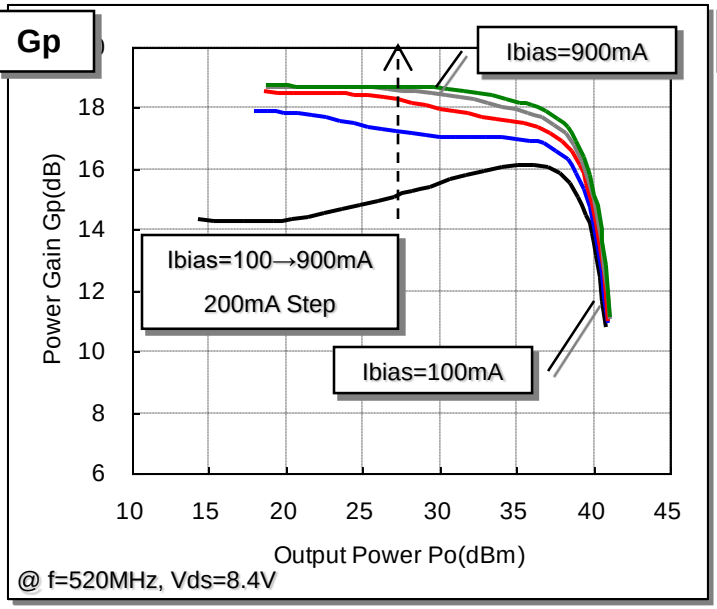
@ f=520MHz, Vds=8.4V

Po - Scale up



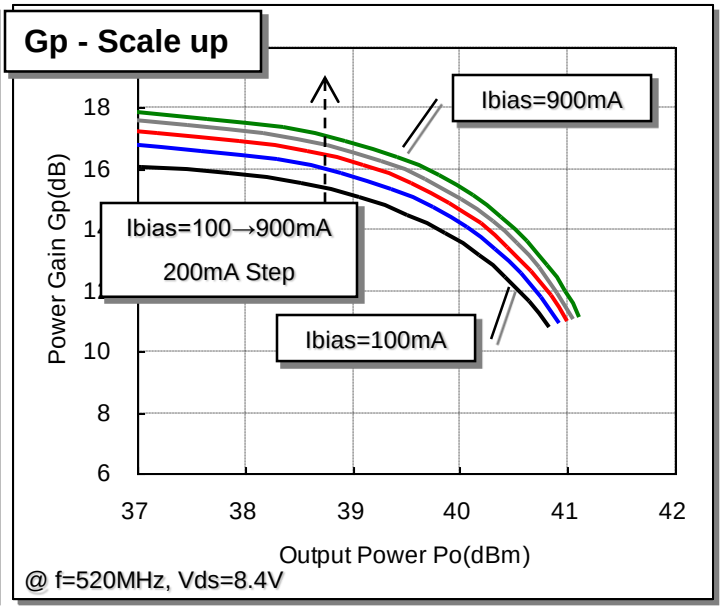
@ f=520MHz, Vds=8.4V

Gp



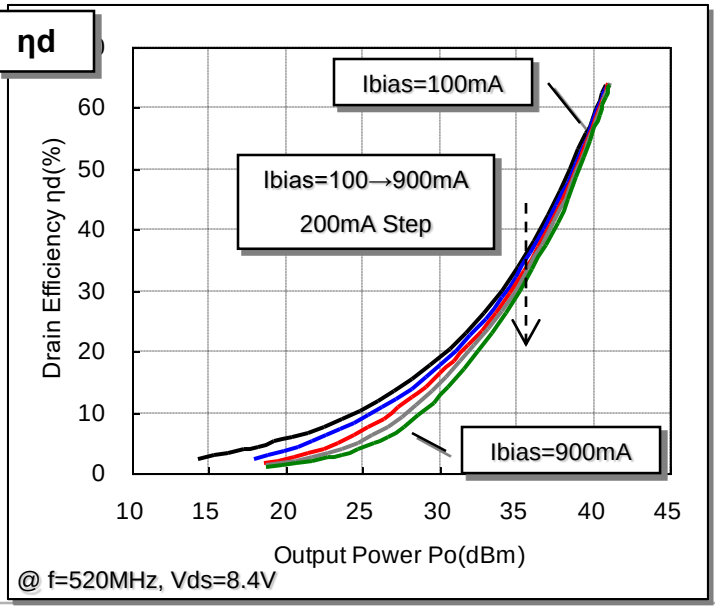
@ f=520MHz, Vds=8.4V

Gp - Scale up



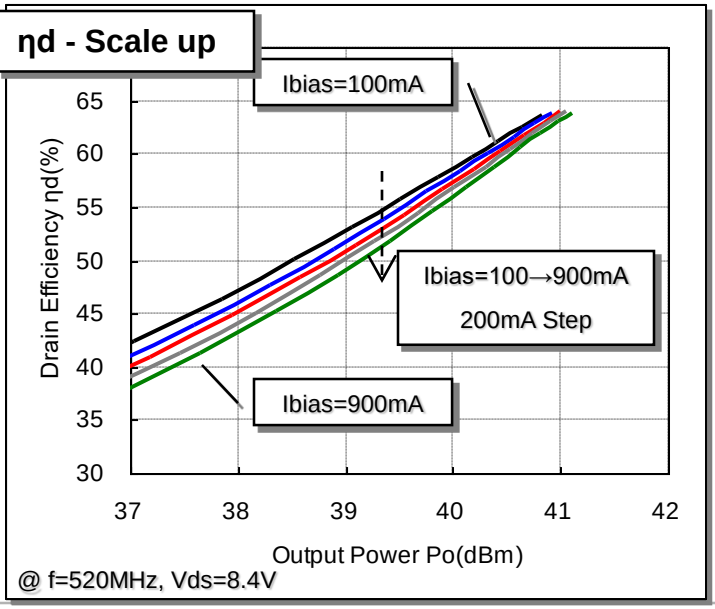
@ f=520MHz, Vds=8.4V

ηd



@ f=520MHz, Vds=8.4V

ηd - Scale up

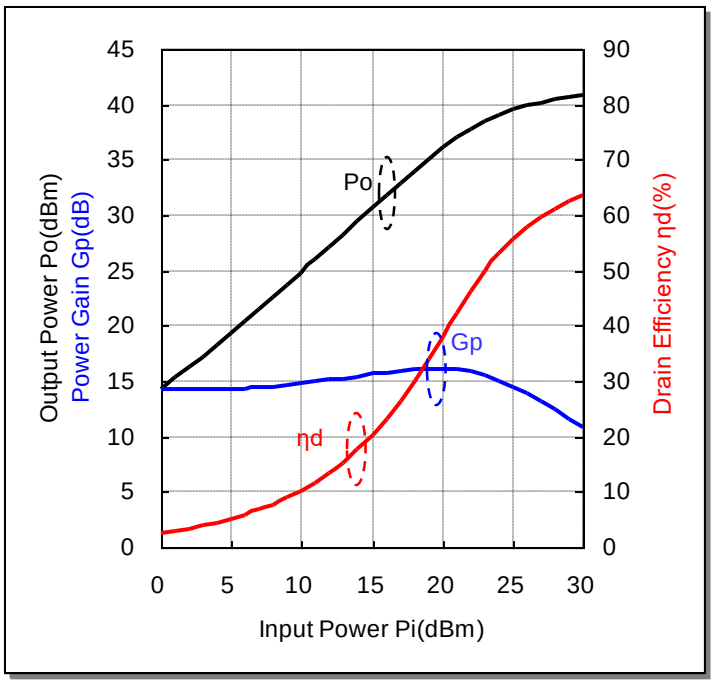


@ f=520MHz, Vds=8.4V

Input-Output Characteristics Vds＝8.4V, Ibias=100mA - Condition 1

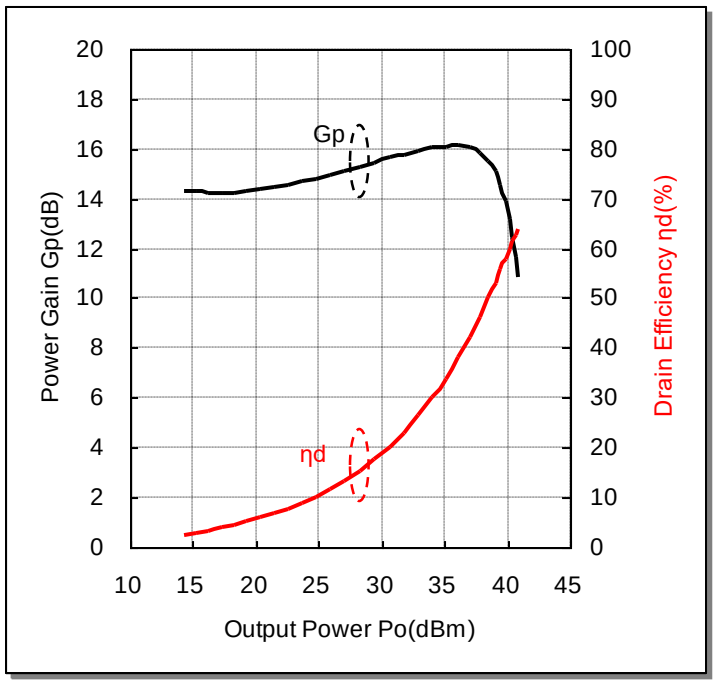
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=99.1mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=8.4V, Ibias=99.1mA

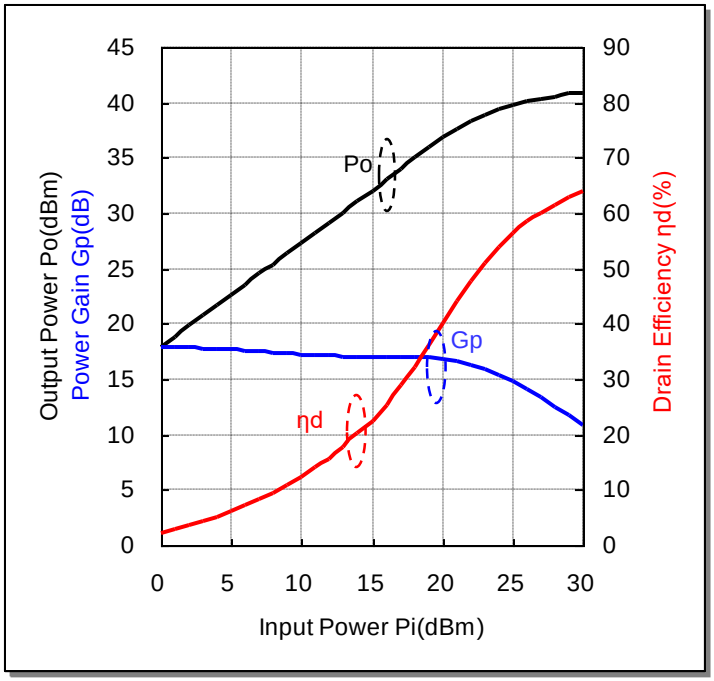
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.49	8.4	99.1	520	0.0	1.0	14.3	0.027	14.3	133	2.4
1.49	8.4	99.1	520	1.0	1.3	15.3	0.034	14.3	142	2.8
1.49	8.4	99.1	520	2.0	1.6	16.3	0.042	14.3	152	3.3
1.49	8.4	99.1	520	3.0	2.0	17.3	0.053	14.3	165	3.8
1.49	8.4	99.1	520	4.0	2.5	18.3	0.067	14.3	180	4.4
1.49	8.4	99.1	520	5.0	3.2	19.3	0.085	14.3	198	5.1
1.49	8.4	99.1	520	6.0	4.0	20.4	0.108	14.4	221	5.8
1.49	8.4	99.1	520	7.0	5.0	21.4	0.139	14.4	246	6.7
1.49	8.4	99.1	520	8.0	6.3	22.5	0.179	14.5	278	7.7
1.49	8.4	99.1	520	9.0	7.9	23.7	0.232	14.7	312	8.9
1.49	8.4	99.1	520	10.0	10.0	24.8	0.303	14.8	353	10.2
1.49	8.4	99.1	520	11.0	12.6	26.0	0.395	15.0	401	11.7
1.49	8.4	99.1	520	12.0	15.8	27.1	0.513	15.1	457	13.4
1.49	8.4	99.1	520	13.0	20.0	28.3	0.671	15.3	522	15.3
1.49	8.4	99.1	520	14.0	25.1	29.4	0.877	15.4	593	17.6
1.49	8.4	99.1	520	15.0	31.6	30.6	1.161	15.6	683	20.2
1.49	8.4	99.1	520	16.0	39.8	31.8	1.507	15.8	777	23.1
1.49	8.4	99.1	520	17.0	50.1	32.9	1.959	15.9	884	26.4
1.49	8.4	99.1	520	18.0	63.1	34.0	2.535	16.0	1006	30.0
1.49	8.4	99.1	520	19.0	79.4	35.1	3.228	16.1	1136	33.8
1.49	8.4	99.1	520	20.0	100.0	36.1	4.083	16.1	1276	38.1
1.49	8.4	99.1	520	21.0	125.9	37.0	5.058	16.0	1422	42.3
1.49	8.4	99.1	520	22.0	158.5	37.8	6.095	15.8	1564	46.4
1.49	8.4	99.1	520	23.0	199.5	38.5	7.129	15.5	1697	50.0
1.49	8.4	99.1	520	24.0	251.2	39.1	8.072	15.1	1810	53.1
1.49	8.4	99.1	520	25.0	316.2	39.5	8.933	14.5	1907	55.8
1.49	8.4	99.1	520	26.0	398.1	39.9	9.705	13.9	1996	57.9
1.49	8.4	99.1	520	27.0	501.2	40.2	10.399	13.2	2072	59.7
1.49	8.4	99.1	520	28.0	631.0	40.4	11.015	12.4	2141	61.2
1.49	8.4	99.1	520	29.0	794.3	40.6	11.588	11.6	2204	62.6
1.49	8.4	99.1	520	30.0	1000.0	40.8	12.106	10.8	2263	63.7

Input-Output Characteristics Vds＝8.4V, Ibias=300mA - Condition 1

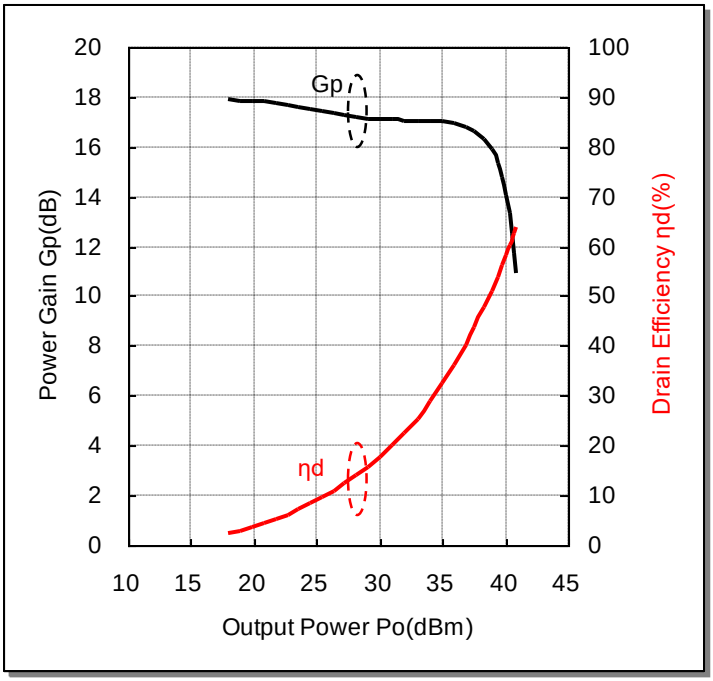
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=296.9mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=8.4V, Ibias=296.9mA

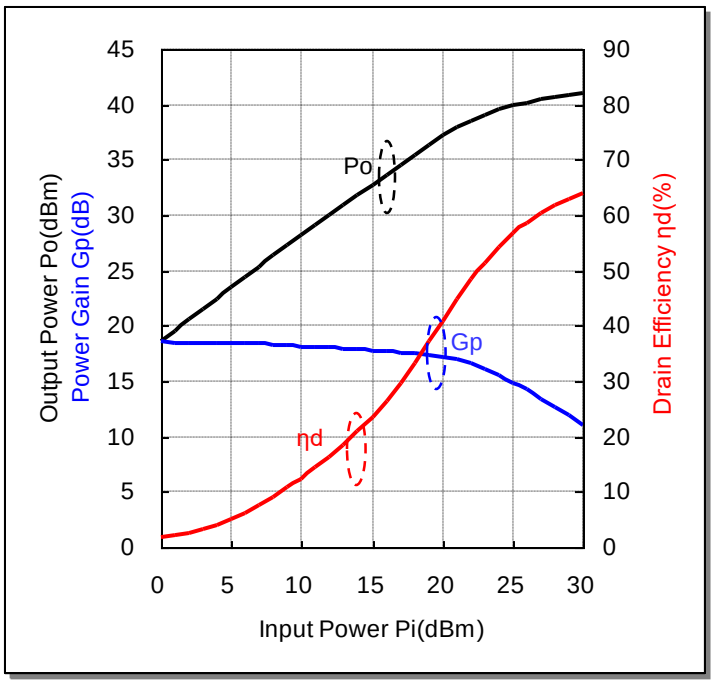
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.67	8.4	296.9	520	0.0	1.0	17.9	0.062	17.9	316	2.3
1.67	8.4	296.9	520	1.0	1.3	18.9	0.077	17.9	320	2.9
1.67	8.4	296.9	520	2.0	1.6	19.8	0.096	17.8	326	3.5
1.67	8.4	296.9	520	3.0	2.0	20.8	0.120	17.8	335	4.3
1.67	8.4	296.9	520	4.0	2.5	21.7	0.149	17.7	345	5.2
1.67	8.4	296.9	520	5.0	3.2	22.7	0.185	17.7	360	6.1
1.67	8.4	296.9	520	6.0	4.0	23.6	0.228	17.6	380	7.1
1.67	8.4	296.9	520	7.0	5.0	24.5	0.281	17.5	404	8.3
1.67	8.4	296.9	520	8.0	6.3	25.4	0.346	17.4	433	9.5
1.67	8.4	296.9	520	9.0	7.9	26.3	0.429	17.3	471	10.8
1.67	8.4	296.9	520	10.0	10.0	27.2	0.528	17.2	512	12.3
1.67	8.4	296.9	520	11.0	12.6	28.2	0.656	17.2	561	13.9
1.67	8.4	296.9	520	12.0	15.8	29.1	0.817	17.1	619	15.7
1.67	8.4	296.9	520	13.0	20.0	30.1	1.016	17.1	682	17.7
1.67	8.4	296.9	520	14.0	25.1	31.1	1.279	17.1	758	20.1
1.67	8.4	296.9	520	15.0	31.6	32.0	1.596	17.0	842	22.6
1.67	8.4	296.9	520	16.0	39.8	33.0	2.004	17.0	937	25.5
1.67	8.4	296.9	520	17.0	50.1	34.0	2.523	17.0	1045	28.8
1.67	8.4	296.9	520	18.0	63.1	35.0	3.162	17.0	1164	32.3
1.67	8.4	296.9	520	19.0	79.4	35.9	3.899	16.9	1288	36.0
1.67	8.4	296.9	520	20.0	100.0	36.8	4.808	16.8	1428	40.1
1.67	8.4	296.9	520	21.0	125.9	37.6	5.754	16.6	1559	43.9
1.67	8.4	296.9	520	22.0	158.5	38.3	6.776	16.3	1690	47.7
1.67	8.4	296.9	520	23.0	199.5	38.9	7.745	15.9	1805	51.1
1.67	8.4	296.9	520	24.0	251.2	39.4	8.630	15.4	1906	53.9
1.67	8.4	296.9	520	25.0	316.2	39.8	9.441	14.8	1993	56.4
1.67	8.4	296.9	520	26.0	398.1	40.1	10.162	14.1	2071	58.4
1.67	8.4	296.9	520	27.0	501.2	40.3	10.789	13.3	2139	60.1
1.67	8.4	296.9	520	28.0	631.0	40.6	11.376	12.6	2201	61.5
1.67	8.4	296.9	520	29.0	794.3	40.8	11.912	11.8	2259	62.8
1.67	8.4	296.9	520	30.0	1000.0	40.9	12.388	10.9	2310	63.8

Input-Output Characteristics Vds＝8.4V, Ibias=500mA - Condition 1

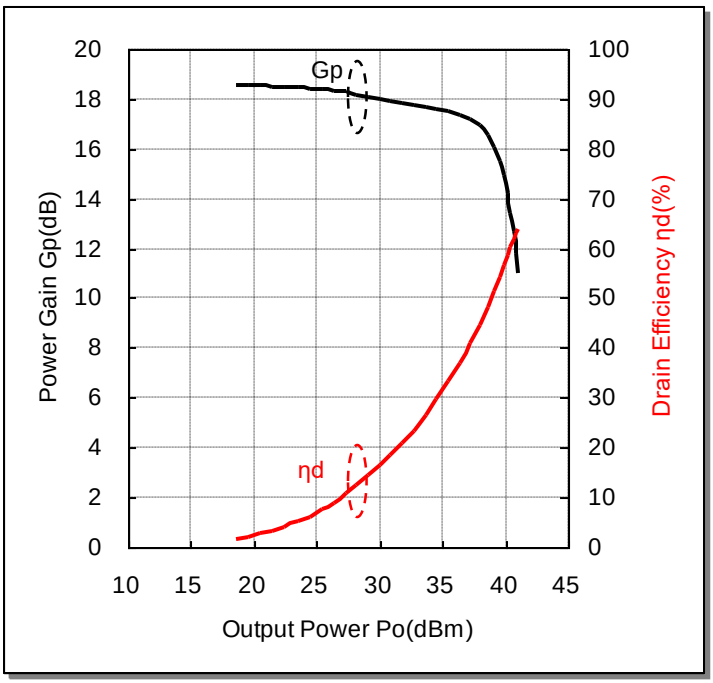
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=493.6mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=8.4V, Ibias=493.6mA

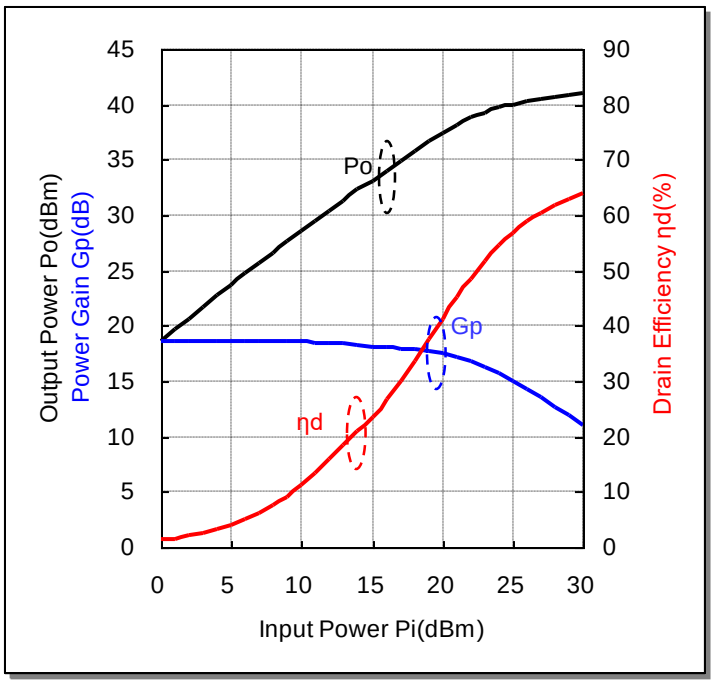
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.80	8.4	493.6	520	0.0	1.0	18.5	0.071	18.5	504	1.7
1.80	8.4	493.6	520	1.0	1.3	19.5	0.090	18.5	507	2.1
1.80	8.4	493.6	520	2.0	1.6	20.5	0.113	18.5	509	2.6
1.80	8.4	493.6	520	3.0	2.0	21.5	0.141	18.5	513	3.3
1.80	8.4	493.6	520	4.0	2.5	22.5	0.177	18.5	519	4.1
1.80	8.4	493.6	520	5.0	3.2	23.5	0.222	18.5	526	5.0
1.80	8.4	493.6	520	6.0	4.0	24.4	0.277	18.4	535	6.2
1.80	8.4	493.6	520	7.0	5.0	25.4	0.346	18.4	550	7.5
1.80	8.4	493.6	520	8.0	6.3	26.3	0.431	18.3	568	9.0
1.80	8.4	493.6	520	9.0	7.9	27.3	0.535	18.3	594	10.7
1.80	8.4	493.6	520	10.0	10.0	28.2	0.655	18.2	628	12.4
1.80	8.4	493.6	520	11.0	12.6	29.1	0.809	18.1	674	14.3
1.80	8.4	493.6	520	12.0	15.8	30.0	0.998	18.0	730	16.3
1.80	8.4	493.6	520	13.0	20.0	30.9	1.227	17.9	792	18.4
1.80	8.4	493.6	520	14.0	25.1	31.8	1.517	17.8	864	20.9
1.80	8.4	493.6	520	15.0	31.6	32.7	1.871	17.7	949	23.5
1.80	8.4	493.6	520	16.0	39.8	33.6	2.312	17.6	1043	26.4
1.80	8.4	493.6	520	17.0	50.1	34.6	2.858	17.6	1148	29.6
1.80	8.4	493.6	520	18.0	63.1	35.5	3.532	17.5	1265	33.2
1.80	8.4	493.6	520	19.0	79.4	36.4	4.335	17.4	1393	37.0
1.80	8.4	493.6	520	20.0	100.0	37.2	5.236	17.2	1525	40.9
1.80	8.4	493.6	520	21.0	125.9	37.9	6.223	16.9	1656	44.7
1.80	8.4	493.6	520	22.0	158.5	38.6	7.211	16.6	1777	48.3
1.80	8.4	493.6	520	23.0	199.5	39.1	8.128	16.1	1881	51.5
1.80	8.4	493.6	520	24.0	251.2	39.5	8.995	15.5	1973	54.3
1.80	8.4	493.6	520	25.0	316.2	39.9	9.772	14.9	2054	56.6
1.80	8.4	493.6	520	26.0	398.1	40.2	10.447	14.2	2124	58.6
1.80	8.4	493.6	520	27.0	501.2	40.4	11.066	13.4	2187	60.2
1.80	8.4	493.6	520	28.0	631.0	40.7	11.641	12.7	2245	61.7
1.80	8.4	493.6	520	29.0	794.3	40.8	12.134	11.8	2296	62.9
1.80	8.4	493.6	520	30.0	1000.0	41.0	12.589	11.0	2343	64.0

Input-Output Characteristics Vds=8.4V, Ibias=700mA - Condition 1

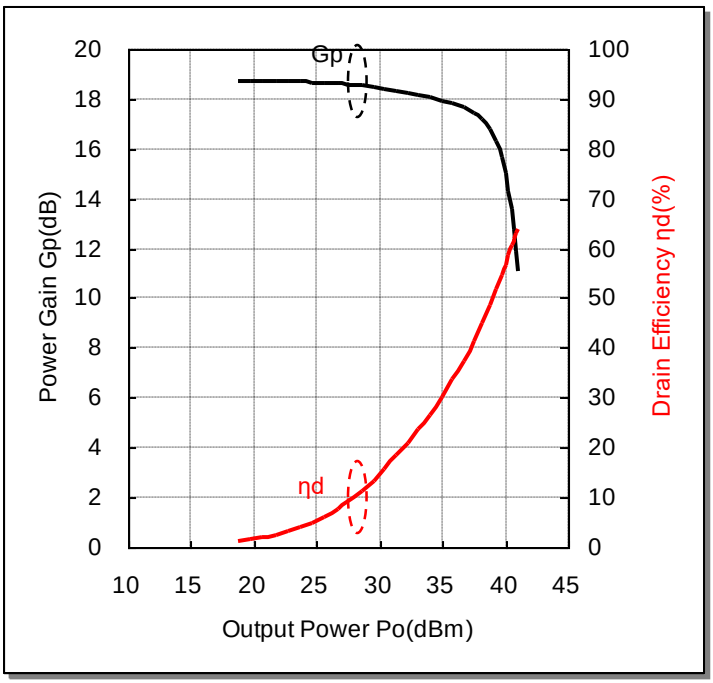
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=687.6mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=8.4V, Ibias=687.6mA

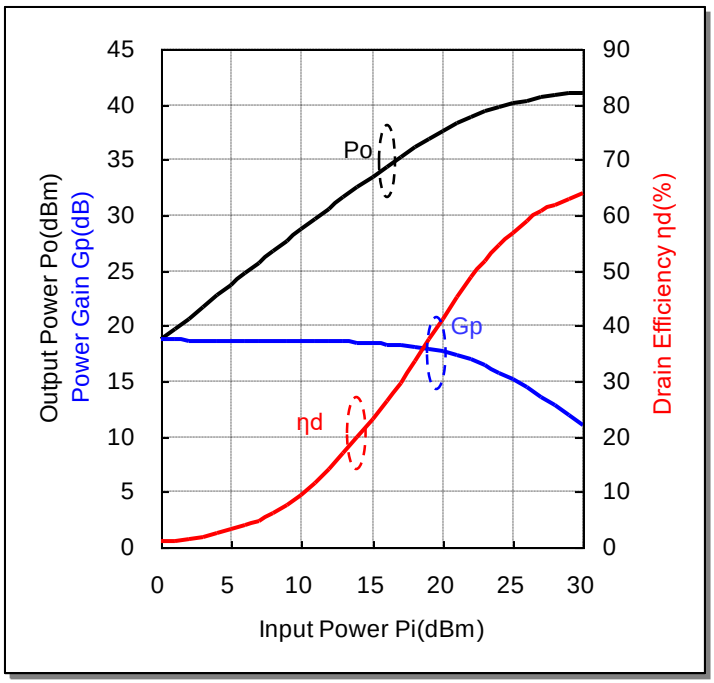
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.91	8.4	687.6	520	0.0	1.0	18.7	0.074	18.7	693	1.3
1.91	8.4	687.6	520	1.0	1.3	19.7	0.093	18.7	696	1.6
1.91	8.4	687.6	520	2.0	1.6	20.7	0.117	18.7	697	2.0
1.91	8.4	687.6	520	3.0	2.0	21.7	0.148	18.7	700	2.5
1.91	8.4	687.6	520	4.0	2.5	22.7	0.186	18.7	702	3.2
1.91	8.4	687.6	520	5.0	3.2	23.7	0.233	18.7	705	3.9
1.91	8.4	687.6	520	6.0	4.0	24.7	0.293	18.7	712	4.9
1.91	8.4	687.6	520	7.0	5.0	25.7	0.368	18.7	717	6.1
1.91	8.4	687.6	520	8.0	6.3	26.6	0.461	18.6	728	7.5
1.91	8.4	687.6	520	9.0	7.9	27.6	0.571	18.6	741	9.2
1.91	8.4	687.6	520	10.0	10.0	28.5	0.714	18.5	761	11.2
1.91	8.4	687.6	520	11.0	12.6	29.5	0.891	18.5	790	13.4
1.91	8.4	687.6	520	12.0	15.8	30.4	1.099	18.4	831	15.7
1.91	8.4	687.6	520	13.0	20.0	31.4	1.365	18.4	888	18.3
1.91	8.4	687.6	520	14.0	25.1	32.3	1.687	18.3	959	20.9
1.91	8.4	687.6	520	15.0	31.6	33.1	2.061	18.1	1038	23.6
1.91	8.4	687.6	520	16.0	39.8	34.0	2.535	18.0	1131	26.7
1.91	8.4	687.6	520	17.0	50.1	34.9	3.112	17.9	1236	30.0
1.91	8.4	687.6	520	18.0	63.1	35.8	3.819	17.8	1353	33.6
1.91	8.4	687.6	520	19.0	79.4	36.7	4.645	17.7	1477	37.4
1.91	8.4	687.6	520	20.0	100.0	37.5	5.572	17.5	1606	41.3
1.91	8.4	687.6	520	21.0	125.9	38.2	6.561	17.2	1733	45.1
1.91	8.4	687.6	520	22.0	158.5	38.8	7.534	16.8	1845	48.6
1.91	8.4	687.6	520	23.0	199.5	39.3	8.453	16.3	1945	51.7
1.91	8.4	687.6	520	24.0	251.2	39.7	9.290	15.7	2030	54.5
1.91	8.4	687.6	520	25.0	316.2	40.0	10.046	15.0	2105	56.8
1.91	8.4	687.6	520	26.0	398.1	40.3	10.715	14.3	2169	58.8
1.91	8.4	687.6	520	27.0	501.2	40.5	11.324	13.5	2228	60.5
1.91	8.4	687.6	520	28.0	631.0	40.7	11.858	12.7	2281	61.9
1.91	8.4	687.6	520	29.0	794.3	40.9	12.331	11.9	2329	63.0
1.91	8.4	687.6	520	30.0	1000.0	41.1	12.764	11.1	2373	64.0

Input-Output Characteristics Vds＝8.4V, Ibias=900mA - Condition 1

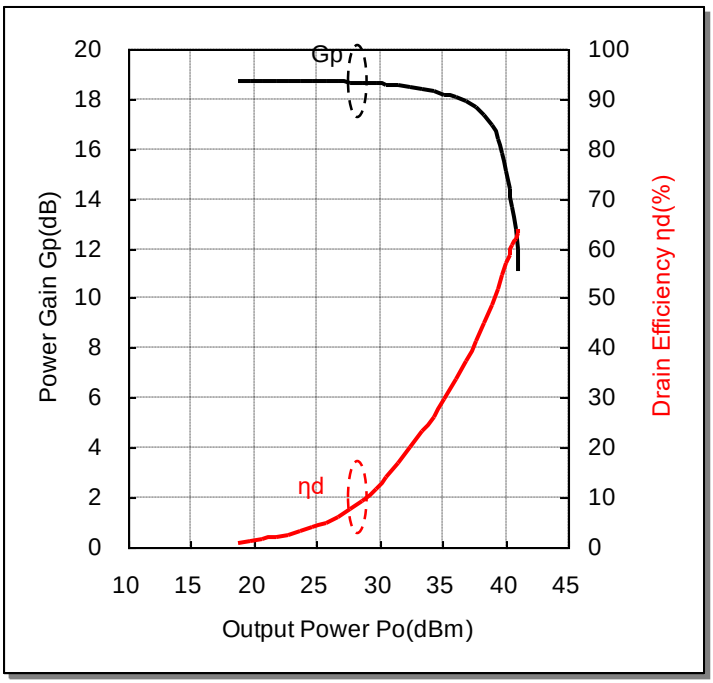
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=888.2mA

Power Gain, Drain Efficiency vs Output Power

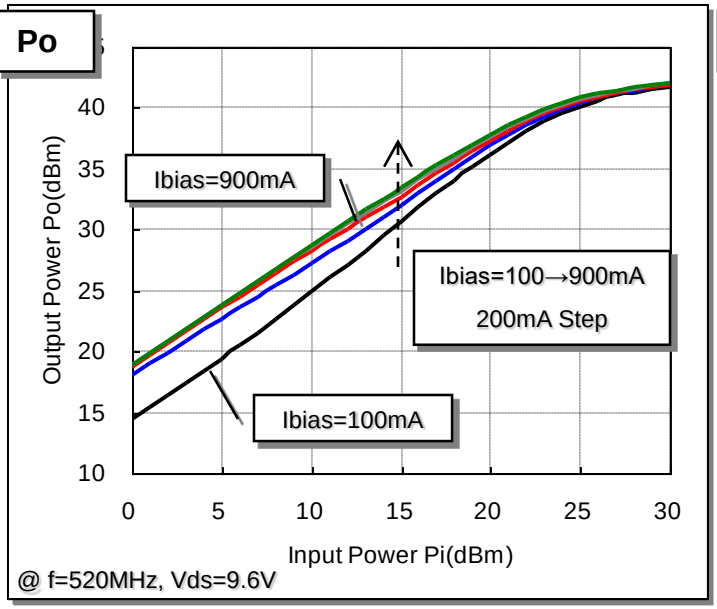


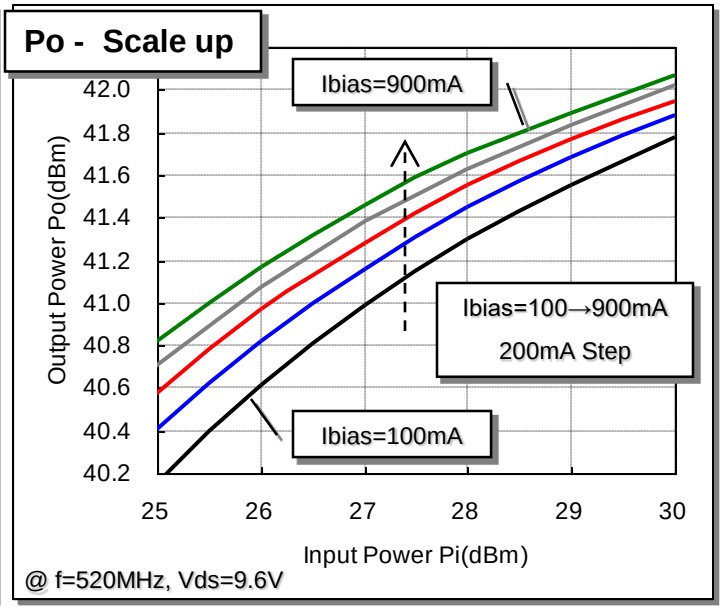
@ f=520MHz, Vds=8.4V, Ibias=888.2mA

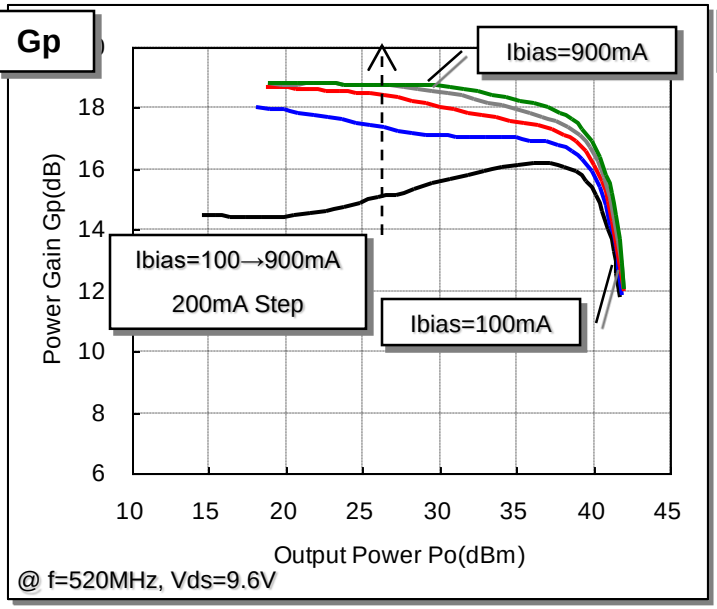
Data

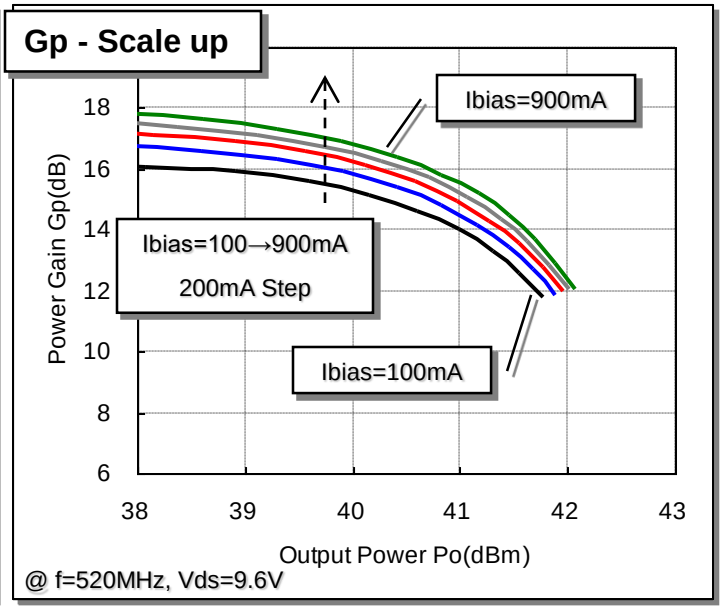
Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.03	8.4	888.2	520	0.0	1.0	18.7	0.074	18.7	894	1.0
2.03	8.4	888.2	520	1.0	1.3	19.7	0.094	18.7	894	1.2
2.03	8.4	888.2	520	2.0	1.6	20.7	0.117	18.7	897	1.6
2.03	8.4	888.2	520	3.0	2.0	21.7	0.148	18.7	896	2.0
2.03	8.4	888.2	520	4.0	2.5	22.7	0.186	18.7	899	2.5
2.03	8.4	888.2	520	5.0	3.2	23.7	0.234	18.7	902	3.1
2.03	8.4	888.2	520	6.0	4.0	24.7	0.294	18.7	907	3.9
2.03	8.4	888.2	520	7.0	5.0	25.7	0.370	18.7	909	4.8
2.03	8.4	888.2	520	8.0	6.3	26.7	0.466	18.7	915	6.1
2.03	8.4	888.2	520	9.0	7.9	27.7	0.585	18.7	925	7.5
2.03	8.4	888.2	520	10.0	10.0	28.7	0.736	18.7	936	9.4
2.03	8.4	888.2	520	11.0	12.6	29.7	0.925	18.7	949	11.6
2.03	8.4	888.2	520	12.0	15.8	30.6	1.146	18.6	971	14.0
2.03	8.4	888.2	520	13.0	20.0	31.5	1.429	18.5	1005	16.9
2.03	8.4	888.2	520	14.0	25.1	32.5	1.766	18.5	1057	19.9
2.03	8.4	888.2	520	15.0	31.6	33.4	2.193	18.4	1129	23.1
2.03	8.4	888.2	520	16.0	39.8	34.3	2.679	18.3	1215	26.3
2.03	8.4	888.2	520	17.0	50.1	35.2	3.304	18.2	1320	29.8
2.03	8.4	888.2	520	18.0	63.1	36.1	4.046	18.1	1435	33.6
2.03	8.4	888.2	520	19.0	79.4	36.9	4.909	17.9	1560	37.5
2.03	8.4	888.2	520	20.0	100.0	37.7	5.821	17.7	1681	41.2
2.03	8.4	888.2	520	21.0	125.9	38.3	6.839	17.3	1803	45.2
2.03	8.4	888.2	520	22.0	158.5	38.9	7.816	16.9	1912	48.7
2.03	8.4	888.2	520	23.0	199.5	39.4	8.730	16.4	2006	51.8
2.03	8.4	888.2	520	24.0	251.2	39.8	9.550	15.8	2085	54.5
2.03	8.4	888.2	520	25.0	316.2	40.1	10.280	15.1	2153	56.8
2.03	8.4	888.2	520	26.0	398.1	40.4	10.940	14.4	2214	58.8
2.03	8.4	888.2	520	27.0	501.2	40.6	11.535	13.6	2268	60.6
2.03	8.4	888.2	520	28.0	631.0	40.8	12.050	12.8	2316	61.9
2.03	8.4	888.2	520	29.0	794.3	41.0	12.503	12.0	2361	63.0
2.03	8.4	888.2	520	30.0	1000.0	41.1	12.882	11.1	2401	63.9

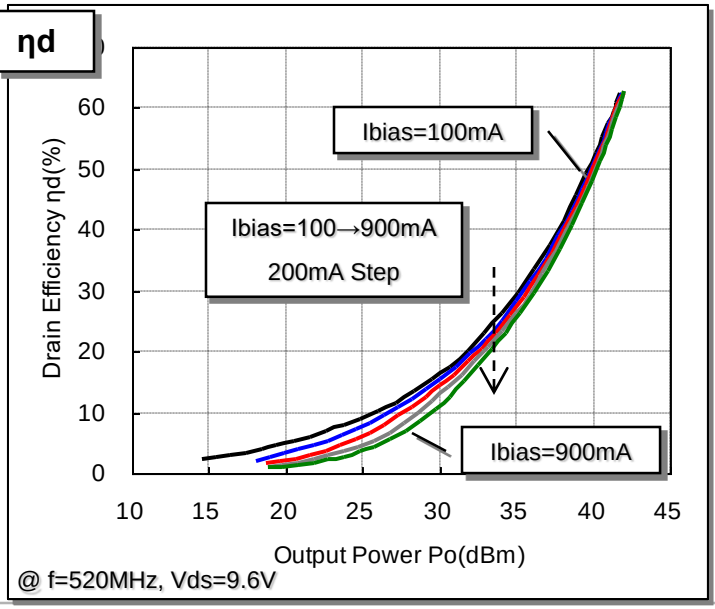
Input - Output Characteristics Vds =9.6V - Condition 1

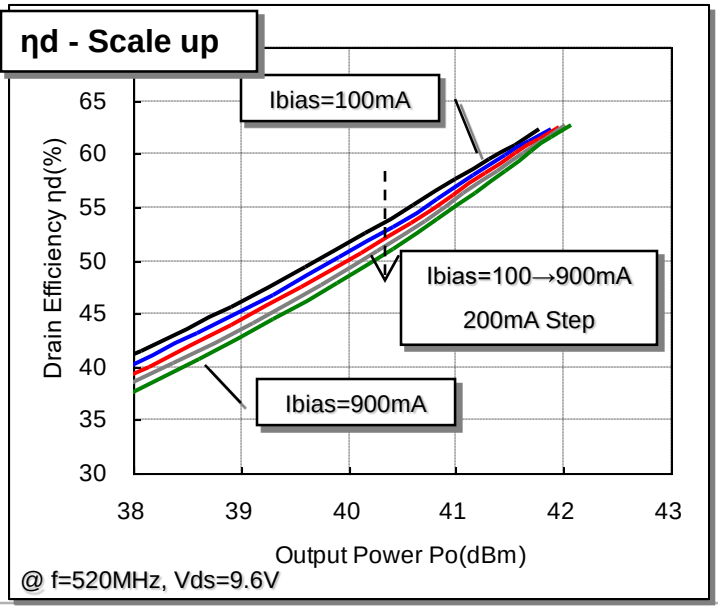








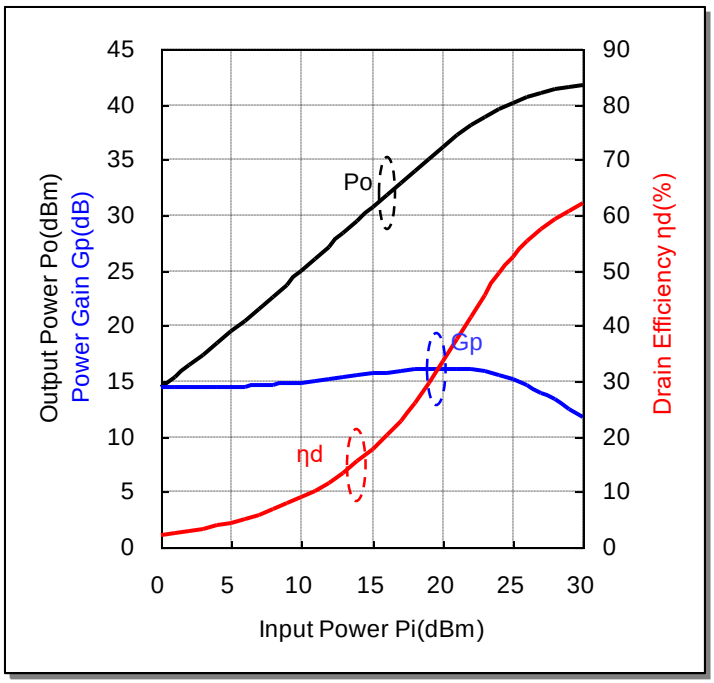




Input-Output Characteristics Vds＝9.6V, Ibias=100mA - Condition 1

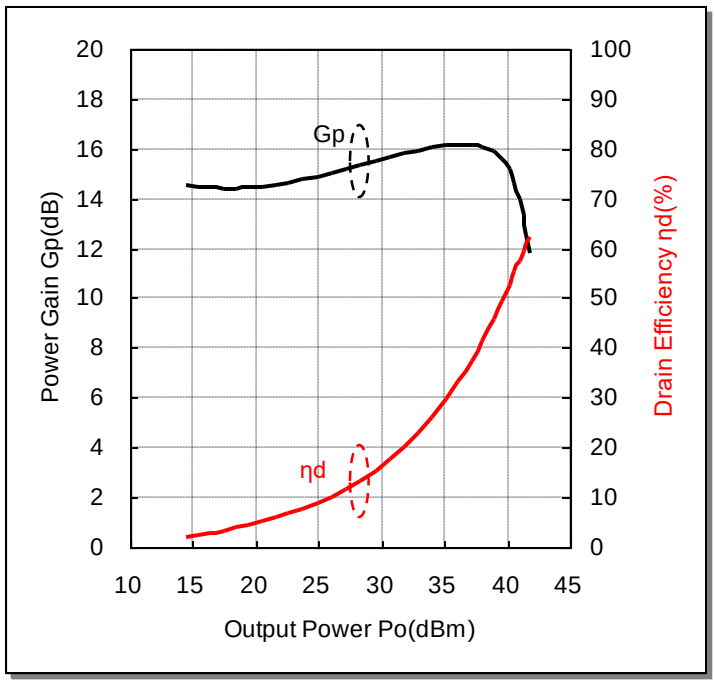
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=101.6mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=101.6mA

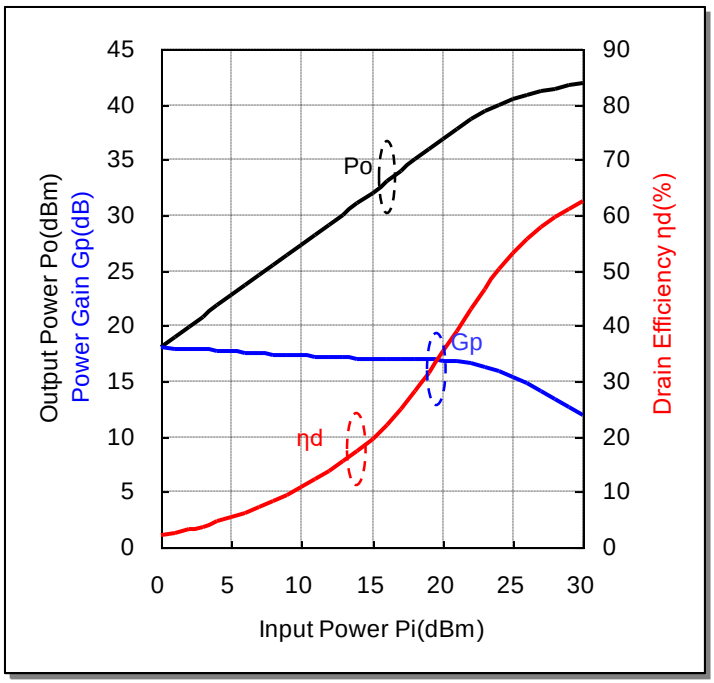
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.47	9.6	101.6	520	0.0	1.0	14.5	0.028	14.5	136	2.2
1.47	9.6	101.6	520	1.0	1.3	15.4	0.035	14.4	146	2.5
1.47	9.6	101.6	520	2.0	1.6	16.4	0.044	14.4	156	2.9
1.47	9.6	101.6	520	3.0	2.0	17.4	0.055	14.4	169	3.4
1.47	9.6	101.6	520	4.0	2.5	18.4	0.069	14.4	184	3.9
1.47	9.6	101.6	520	5.0	3.2	19.4	0.088	14.4	203	4.5
1.47	9.6	101.6	520	6.0	4.0	20.5	0.112	14.5	226	5.2
1.47	9.6	101.6	520	7.0	5.0	21.6	0.143	14.6	251	6.0
1.47	9.6	101.6	520	8.0	6.3	22.6	0.184	14.6	283	6.8
1.47	9.6	101.6	520	9.0	7.9	23.8	0.238	14.8	317	7.8
1.47	9.6	101.6	520	10.0	10.0	24.9	0.308	14.9	359	8.9
1.47	9.6	101.6	520	11.0	12.6	26.0	0.402	15.0	409	10.2
1.47	9.6	101.6	520	12.0	15.8	27.1	0.519	15.1	463	11.7
1.47	9.6	101.6	520	13.0	20.0	28.3	0.678	15.3	529	13.4
1.47	9.6	101.6	520	14.0	25.1	29.5	0.891	15.5	603	15.4
1.47	9.6	101.6	520	15.0	31.6	30.6	1.159	15.6	687	17.6
1.47	9.6	101.6	520	16.0	39.8	31.8	1.514	15.8	784	20.1
1.47	9.6	101.6	520	17.0	50.1	32.9	1.963	15.9	892	22.9
1.47	9.6	101.6	520	18.0	63.1	34.0	2.541	16.0	1013	26.1
1.47	9.6	101.6	520	19.0	79.4	35.1	3.258	16.1	1147	29.6
1.47	9.6	101.6	520	20.0	100.0	36.2	4.140	16.2	1290	33.4
1.47	9.6	101.6	520	21.0	125.9	37.2	5.200	16.2	1445	37.5
1.47	9.6	101.6	520	22.0	158.5	38.1	6.412	16.1	1609	41.5
1.47	9.6	101.6	520	23.0	199.5	38.9	7.780	15.9	1776	45.6
1.47	9.6	101.6	520	24.0	251.2	39.6	9.120	15.6	1923	49.4
1.47	9.6	101.6	520	25.0	316.2	40.2	10.351	15.2	2054	52.5
1.47	9.6	101.6	520	26.0	398.1	40.6	11.508	14.6	2171	55.2
1.47	9.6	101.6	520	27.0	501.2	41.0	12.560	14.0	2274	57.5
1.47	9.6	101.6	520	28.0	631.0	41.3	13.490	13.3	2365	59.4
1.47	9.6	101.6	520	29.0	794.3	41.5	14.289	12.5	2445	60.9
1.47	9.6	101.6	520	30.0	1000.0	41.8	15.066	11.8	2519	62.3

Input-Output Characteristics Vds＝9.6V, Ibias=300mA - Condition 1

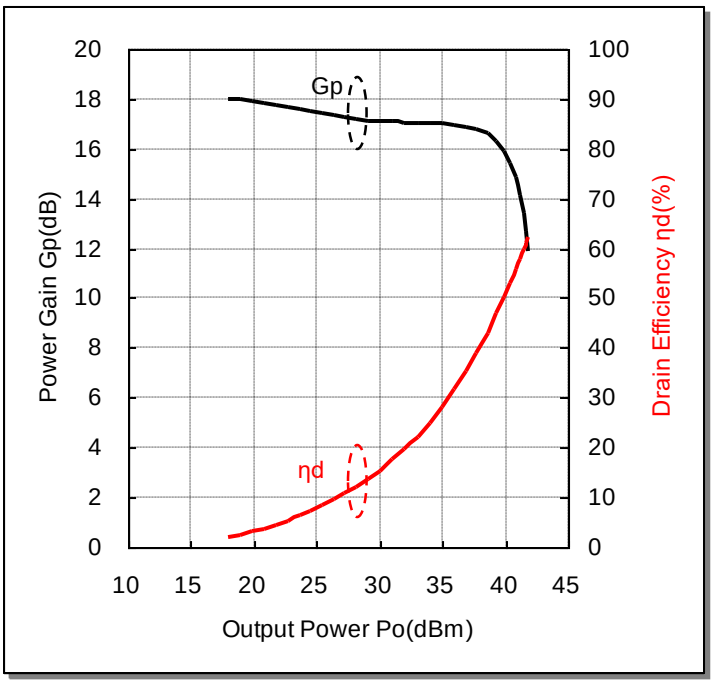
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=296.7mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=296.7mA

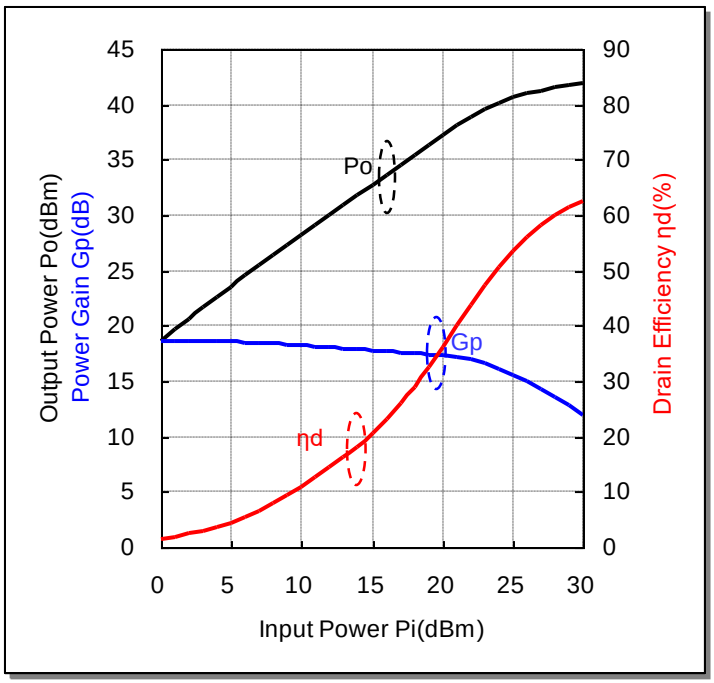
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.63	9.6	296.7	520	0.0	1.0	18.0	0.063	18.0	313	2.1
1.63	9.6	296.7	520	1.0	1.3	19.0	0.079	18.0	318	2.6
1.63	9.6	296.7	520	2.0	1.6	19.9	0.098	17.9	324	3.2
1.63	9.6	296.7	520	3.0	2.0	20.8	0.121	17.8	333	3.8
1.63	9.6	296.7	520	4.0	2.5	21.8	0.151	17.8	345	4.6
1.63	9.6	296.7	520	5.0	3.2	22.7	0.187	17.7	360	5.4
1.63	9.6	296.7	520	6.0	4.0	23.6	0.230	17.6	381	6.3
1.63	9.6	296.7	520	7.0	5.0	24.5	0.283	17.5	405	7.3
1.63	9.6	296.7	520	8.0	6.3	25.4	0.349	17.4	436	8.3
1.63	9.6	296.7	520	9.0	7.9	26.3	0.431	17.3	474	9.5
1.63	9.6	296.7	520	10.0	10.0	27.3	0.532	17.3	516	10.8
1.63	9.6	296.7	520	11.0	12.6	28.2	0.661	17.2	566	12.2
1.63	9.6	296.7	520	12.0	15.8	29.1	0.817	17.1	621	13.7
1.63	9.6	296.7	520	13.0	20.0	30.1	1.019	17.1	686	15.5
1.63	9.6	296.7	520	14.0	25.1	31.1	1.279	17.1	761	17.5
1.63	9.6	296.7	520	15.0	31.6	32.0	1.596	17.0	845	19.7
1.63	9.6	296.7	520	16.0	39.8	33.0	2.004	17.0	942	22.2
1.63	9.6	296.7	520	17.0	50.1	34.0	2.523	17.0	1049	25.1
1.63	9.6	296.7	520	18.0	63.1	35.0	3.170	17.0	1172	28.2
1.63	9.6	296.7	520	19.0	79.4	35.9	3.926	16.9	1297	31.5
1.63	9.6	296.7	520	20.0	100.0	36.9	4.887	16.9	1443	35.3
1.63	9.6	296.7	520	21.0	125.9	37.8	5.957	16.8	1589	39.1
1.63	9.6	296.7	520	22.0	158.5	38.6	7.228	16.6	1748	43.1
1.63	9.6	296.7	520	23.0	199.5	39.3	8.531	16.3	1899	46.8
1.63	9.6	296.7	520	24.0	251.2	39.9	9.795	15.9	2033	50.2
1.63	9.6	296.7	520	25.0	316.2	40.4	10.990	15.4	2153	53.2
1.63	9.6	296.7	520	26.0	398.1	40.8	12.078	14.8	2257	55.8
1.63	9.6	296.7	520	27.0	501.2	41.2	13.062	14.2	2349	57.9
1.63	9.6	296.7	520	28.0	631.0	41.5	13.964	13.5	2432	59.8
1.63	9.6	296.7	520	29.0	794.3	41.7	14.723	12.7	2507	61.2
1.63	9.6	296.7	520	30.0	1000.0	41.9	15.417	11.9	2574	62.4

Input-Output Characteristics Vds＝9.6V, Ibias=500mA - Condition 1

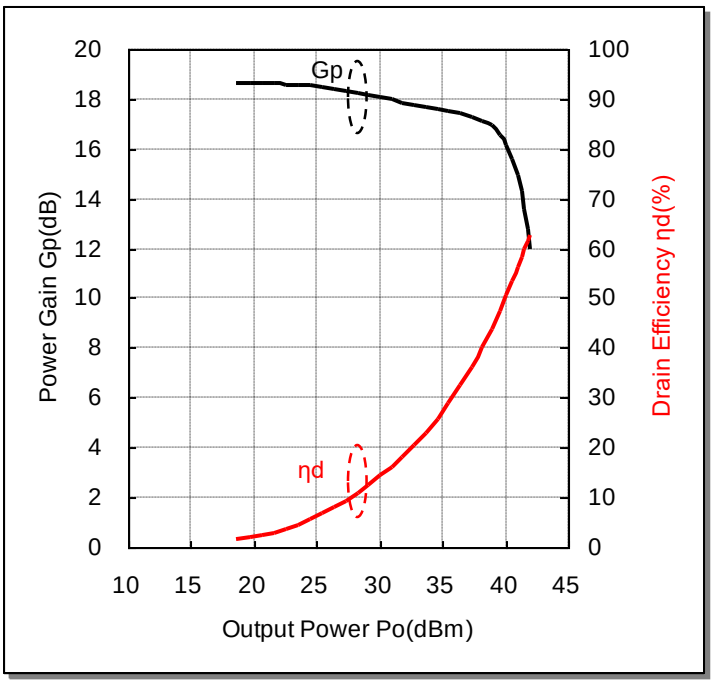
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=494.6mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=494.6mA

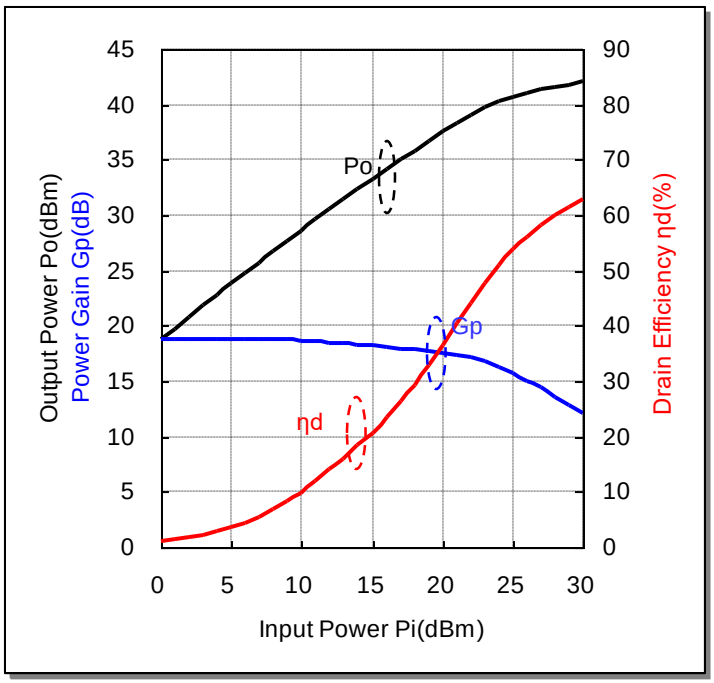
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.76	9.6	494.6	520	0.0	1.0	18.7	0.074	18.7	504	1.5
1.76	9.6	494.6	520	1.0	1.3	19.7	0.092	18.7	507	1.9
1.76	9.6	494.6	520	2.0	1.6	20.6	0.116	18.6	509	2.4
1.76	9.6	494.6	520	3.0	2.0	21.6	0.145	18.6	513	2.9
1.76	9.6	494.6	520	4.0	2.5	22.6	0.181	18.6	521	3.6
1.76	9.6	494.6	520	5.0	3.2	23.6	0.227	18.6	526	4.5
1.76	9.6	494.6	520	6.0	4.0	24.5	0.283	18.5	539	5.5
1.76	9.6	494.6	520	7.0	5.0	25.5	0.353	18.5	551	6.7
1.76	9.6	494.6	520	8.0	6.3	26.4	0.439	18.4	570	8.0
1.76	9.6	494.6	520	9.0	7.9	27.3	0.542	18.3	599	9.4
1.76	9.6	494.6	520	10.0	10.0	28.3	0.668	18.3	635	11.0
1.76	9.6	494.6	520	11.0	12.6	29.1	0.822	18.1	682	12.6
1.76	9.6	494.6	520	12.0	15.8	30.0	1.012	18.0	737	14.3
1.76	9.6	494.6	520	13.0	20.0	31.0	1.247	18.0	800	16.2
1.76	9.6	494.6	520	14.0	25.1	31.8	1.528	17.8	872	18.2
1.76	9.6	494.6	520	15.0	31.6	32.8	1.884	17.8	956	20.5
1.76	9.6	494.6	520	16.0	39.8	33.7	2.333	17.7	1053	23.1
1.76	9.6	494.6	520	17.0	50.1	34.6	2.877	17.6	1159	25.9
1.76	9.6	494.6	520	18.0	63.1	35.5	3.556	17.5	1276	29.0
1.76	9.6	494.6	520	19.0	79.4	36.4	4.375	17.4	1407	32.4
1.76	9.6	494.6	520	20.0	100.0	37.3	5.370	17.3	1548	36.1
1.76	9.6	494.6	520	21.0	125.9	38.1	6.516	17.1	1698	40.0
1.76	9.6	494.6	520	22.0	158.5	38.9	7.780	16.9	1848	43.9
1.76	9.6	494.6	520	23.0	199.5	39.6	9.036	16.6	1987	47.4
1.76	9.6	494.6	520	24.0	251.2	40.1	10.280	16.1	2112	50.7
1.76	9.6	494.6	520	25.0	316.2	40.6	11.429	15.6	2223	53.6
1.76	9.6	494.6	520	26.0	398.1	41.0	12.503	15.0	2320	56.1
1.76	9.6	494.6	520	27.0	501.2	41.3	13.428	14.3	2403	58.2
1.76	9.6	494.6	520	28.0	631.0	41.5	14.289	13.5	2481	60.0
1.76	9.6	494.6	520	29.0	794.3	41.8	15.031	12.8	2549	61.4
1.76	9.6	494.6	520	30.0	1000.0	42.0	15.668	12.0	2610	62.5

Input-Output Characteristics Vds＝9.6V, Ibias=700mA - Condition 1

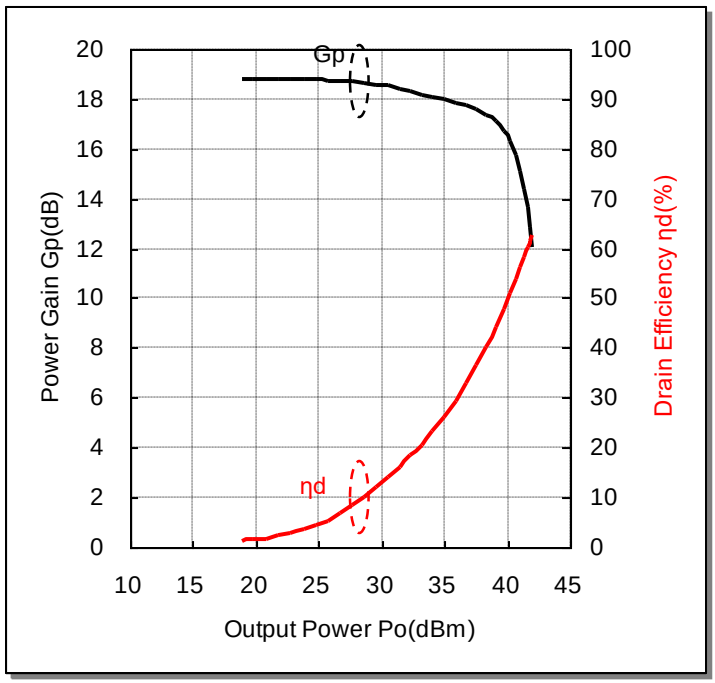
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=691.2mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=691.2mA

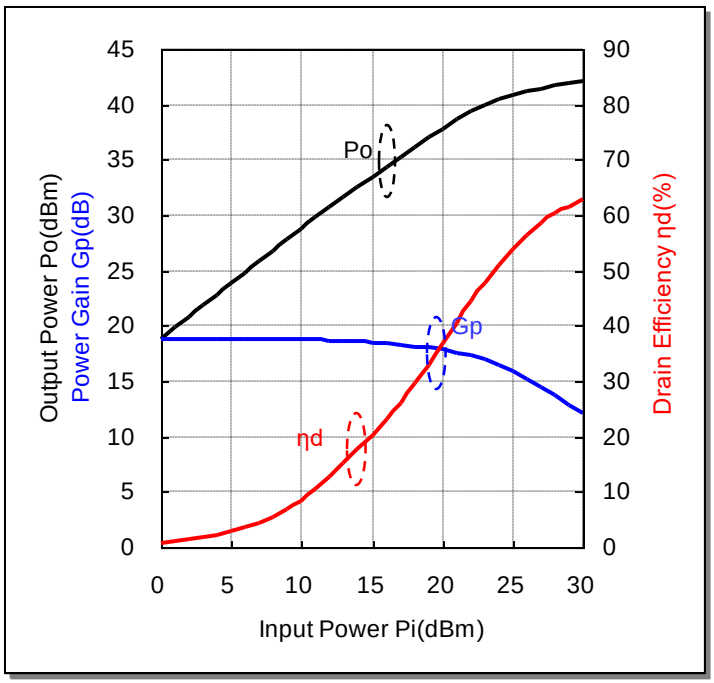
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.88	9.6	691.2	520	0.0	1.0	18.8	0.076	18.8	699	1.1
1.88	9.6	691.2	520	1.0	1.3	19.8	0.095	18.8	697	1.4
1.88	9.6	691.2	520	2.0	1.6	20.8	0.120	18.8	701	1.8
1.88	9.6	691.2	520	3.0	2.0	21.8	0.151	18.8	702	2.2
1.88	9.6	691.2	520	4.0	2.5	22.8	0.190	18.8	706	2.8
1.88	9.6	691.2	520	5.0	3.2	23.8	0.239	18.8	710	3.5
1.88	9.6	691.2	520	6.0	4.0	24.8	0.299	18.8	715	4.4
1.88	9.6	691.2	520	7.0	5.0	25.8	0.376	18.8	724	5.4
1.88	9.6	691.2	520	8.0	6.3	26.7	0.472	18.7	731	6.7
1.88	9.6	691.2	520	9.0	7.9	27.7	0.590	18.7	746	8.2
1.88	9.6	691.2	520	10.0	10.0	28.6	0.729	18.6	766	9.9
1.88	9.6	691.2	520	11.0	12.6	29.6	0.908	18.6	796	11.9
1.88	9.6	691.2	520	12.0	15.8	30.5	1.127	18.5	841	14.0
1.88	9.6	691.2	520	13.0	20.0	31.4	1.387	18.4	900	16.1
1.88	9.6	691.2	520	14.0	25.1	32.3	1.694	18.3	966	18.3
1.88	9.6	691.2	520	15.0	31.6	33.2	2.080	18.2	1049	20.7
1.88	9.6	691.2	520	16.0	39.8	34.1	2.559	18.1	1142	23.3
1.88	9.6	691.2	520	17.0	50.1	35.0	3.141	18.0	1247	26.2
1.88	9.6	691.2	520	18.0	63.1	35.9	3.855	17.9	1366	29.4
1.88	9.6	691.2	520	19.0	79.4	36.7	4.710	17.7	1495	32.8
1.88	9.6	691.2	520	20.0	100.0	37.6	5.728	17.6	1635	36.5
1.88	9.6	691.2	520	21.0	125.9	38.4	6.887	17.4	1780	40.3
1.88	9.6	691.2	520	22.0	158.5	39.1	8.147	17.1	1924	44.1
1.88	9.6	691.2	520	23.0	199.5	39.7	9.419	16.7	2059	47.7
1.88	9.6	691.2	520	24.0	251.2	40.3	10.641	16.3	2179	50.9
1.88	9.6	691.2	520	25.0	316.2	40.7	11.776	15.7	2282	53.7
1.88	9.6	691.2	520	26.0	398.1	41.1	12.794	15.1	2371	56.2
1.88	9.6	691.2	520	27.0	501.2	41.4	13.740	14.4	2452	58.4
1.88	9.6	691.2	520	28.0	631.0	41.6	14.555	13.6	2522	60.1
1.88	9.6	691.2	520	29.0	794.3	41.8	15.241	12.8	2585	61.4
1.88	9.6	691.2	520	30.0	1000.0	42.0	15.922	12.0	2643	62.8

Input-Output Characteristics Vds＝9.6V, Ibias=900mA - Condition 1

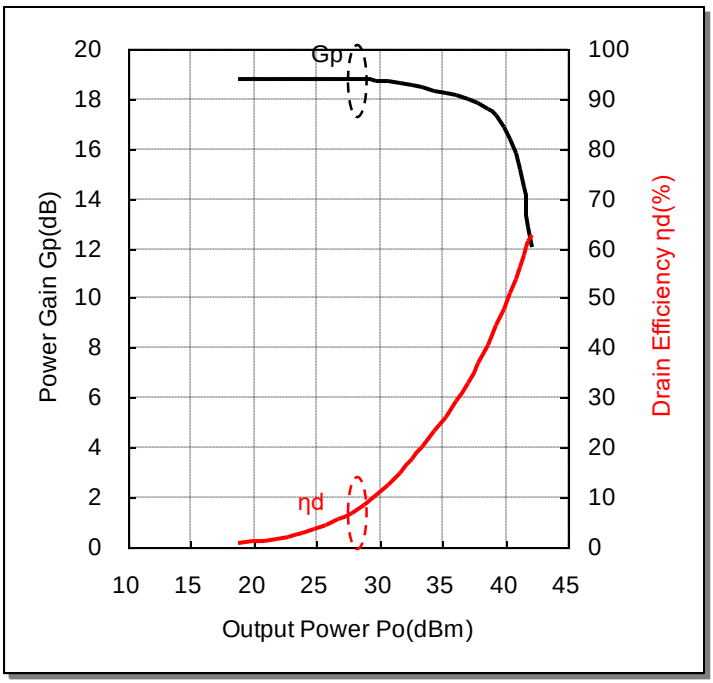
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=887.8mA

Power Gain, Drain Efficiency vs Output Power



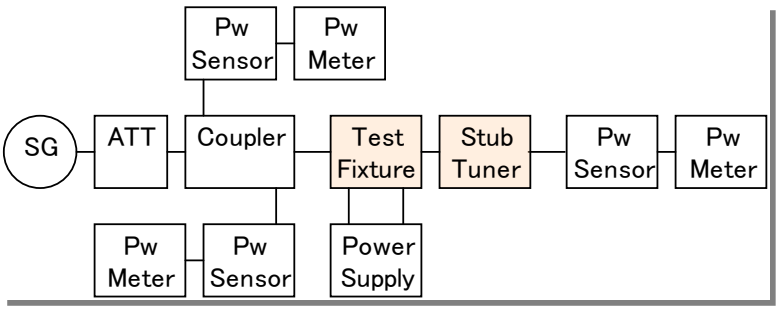
@ f=520MHz, Vds=9.6V, Ibias=887.8mA

Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.99	9.6	887.8	520	0.0	1.0	18.8	0.076	18.8	890	0.9
1.99	9.6	887.8	520	1.0	1.3	19.8	0.095	18.8	891	1.1
1.99	9.6	887.8	520	2.0	1.6	20.8	0.120	18.8	895	1.4
1.99	9.6	887.8	520	3.0	2.0	21.8	0.151	18.8	895	1.8
1.99	9.6	887.8	520	4.0	2.5	22.8	0.190	18.8	897	2.2
1.99	9.6	887.8	520	5.0	3.2	23.8	0.239	18.8	900	2.8
1.99	9.6	887.8	520	6.0	4.0	24.8	0.301	18.8	903	3.5
1.99	9.6	887.8	520	7.0	5.0	25.8	0.378	18.8	907	4.3
1.99	9.6	887.8	520	8.0	6.3	26.8	0.476	18.8	913	5.4
1.99	9.6	887.8	520	9.0	7.9	27.8	0.598	18.8	919	6.8
1.99	9.6	887.8	520	10.0	10.0	28.8	0.753	18.8	933	8.4
1.99	9.6	887.8	520	11.0	12.6	29.8	0.944	18.8	949	10.4
1.99	9.6	887.8	520	12.0	15.8	30.7	1.169	18.7	971	12.5
1.99	9.6	887.8	520	13.0	20.0	31.6	1.455	18.6	1009	15.0
1.99	9.6	887.8	520	14.0	25.1	32.6	1.807	18.6	1066	17.7
1.99	9.6	887.8	520	15.0	31.6	33.5	2.213	18.5	1138	20.3
1.99	9.6	887.8	520	16.0	39.8	34.3	2.723	18.3	1227	23.1
1.99	9.6	887.8	520	17.0	50.1	35.3	3.350	18.3	1332	26.2
1.99	9.6	887.8	520	18.0	63.1	36.1	4.102	18.1	1449	29.5
1.99	9.6	887.8	520	19.0	79.4	37.0	5.012	18.0	1579	33.1
1.99	9.6	887.8	520	20.0	100.0	37.8	6.067	17.8	1718	36.8
1.99	9.6	887.8	520	21.0	125.9	38.6	7.261	17.6	1862	40.6
1.99	9.6	887.8	520	22.0	158.5	39.3	8.531	17.3	2001	44.4
1.99	9.6	887.8	520	23.0	199.5	39.9	9.772	16.9	2127	47.9
1.99	9.6	887.8	520	24.0	251.2	40.4	10.990	16.4	2240	51.1
1.99	9.6	887.8	520	25.0	316.2	40.8	12.078	15.8	2336	53.9
1.99	9.6	887.8	520	26.0	398.1	41.2	13.092	15.2	2419	56.4
1.99	9.6	887.8	520	27.0	501.2	41.5	13.996	14.5	2495	58.4
1.99	9.6	887.8	520	28.0	631.0	41.7	14.791	13.7	2560	60.2
1.99	9.6	887.8	520	29.0	794.3	41.9	15.453	12.9	2619	61.5
1.99	9.6	887.8	520	30.0	1000.0	42.1	16.106	12.1	2675	62.7

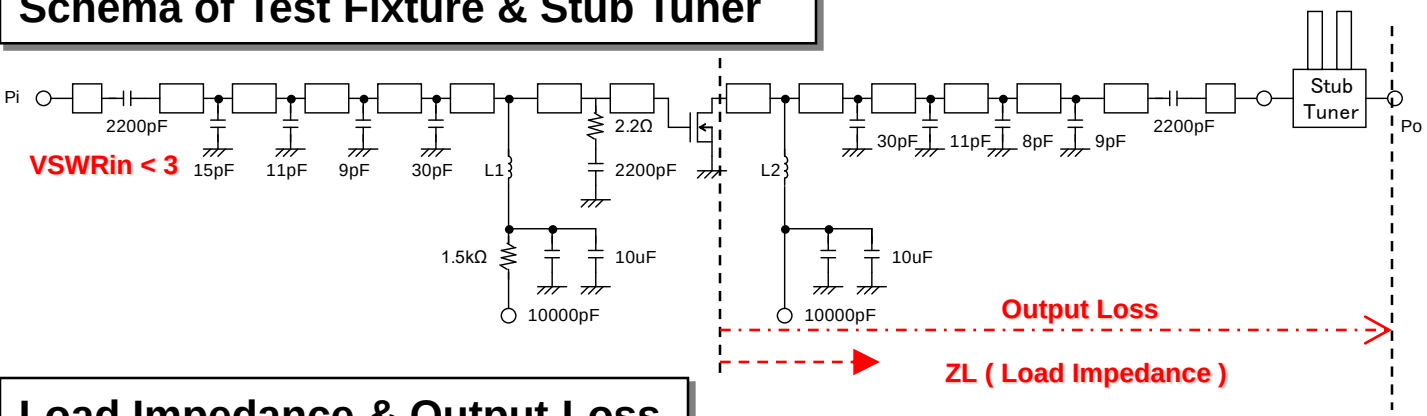
Test System – Condition 2

RF Test Block



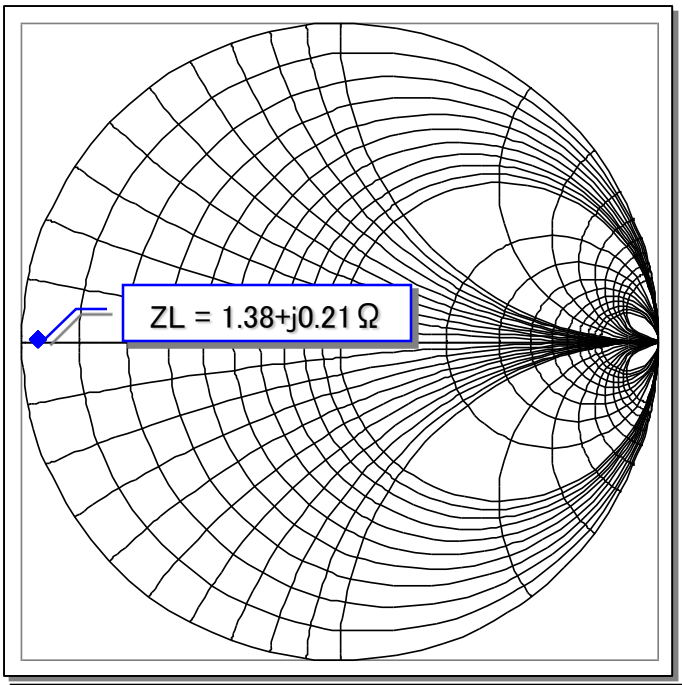
Test Fixture

Schema of Test Fixture & Stub Tuner

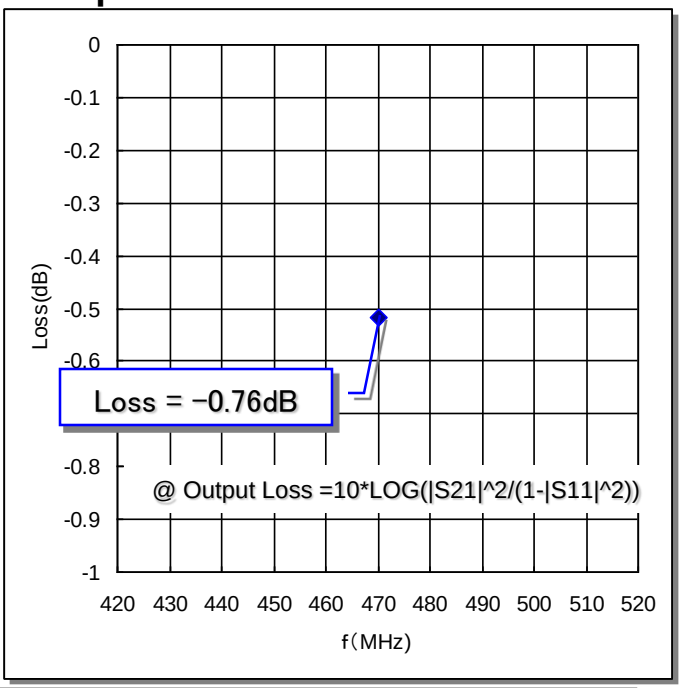


Load Impedance & Output Loss

Smith Chart



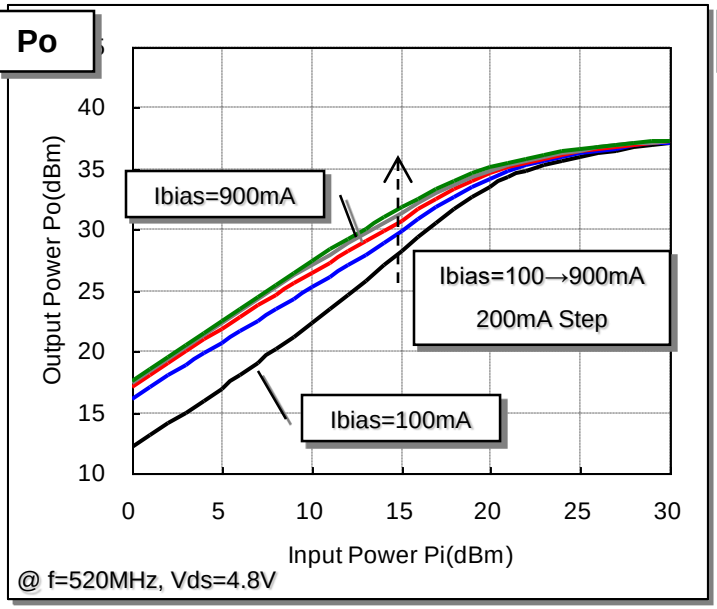
Output Loss

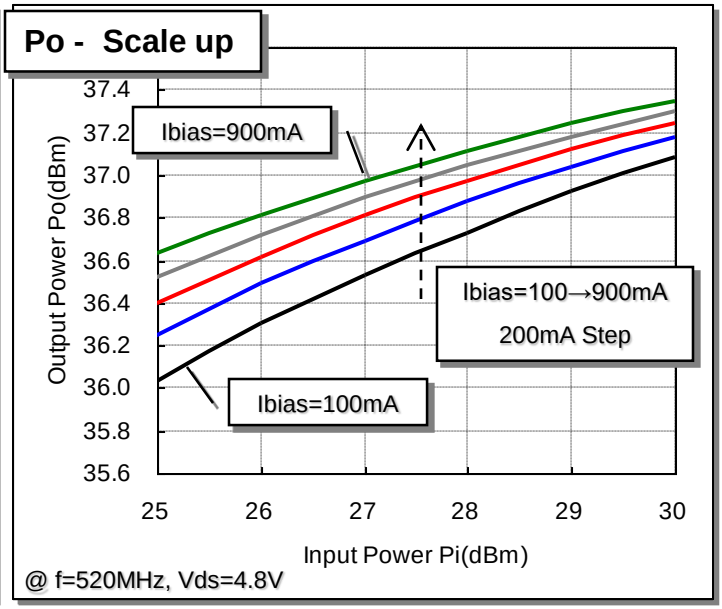


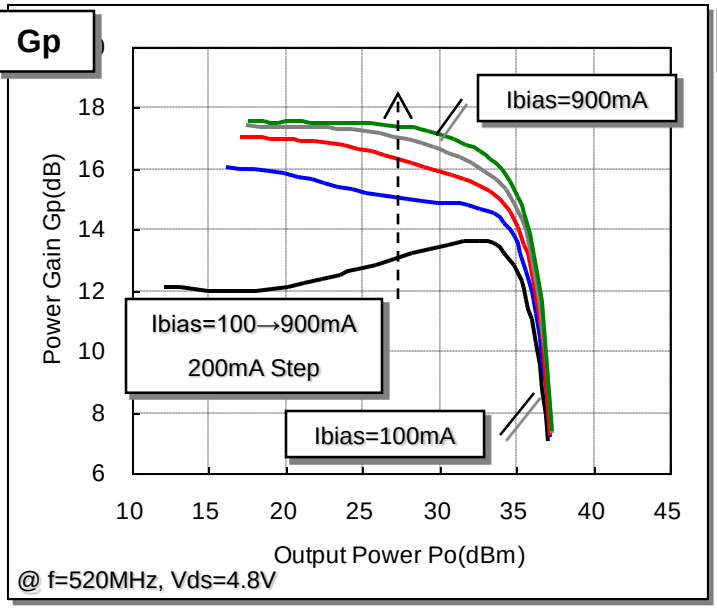
ZL = 1.38 + j 0.21 Ω , Output Circuit Loss = −0.76dB (@ f=520MHz)

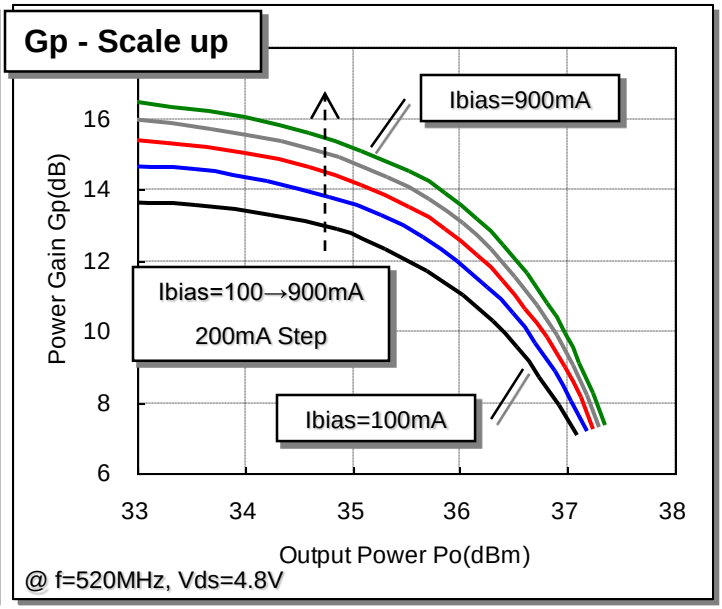
※ The test value in this application note includes the output loss.

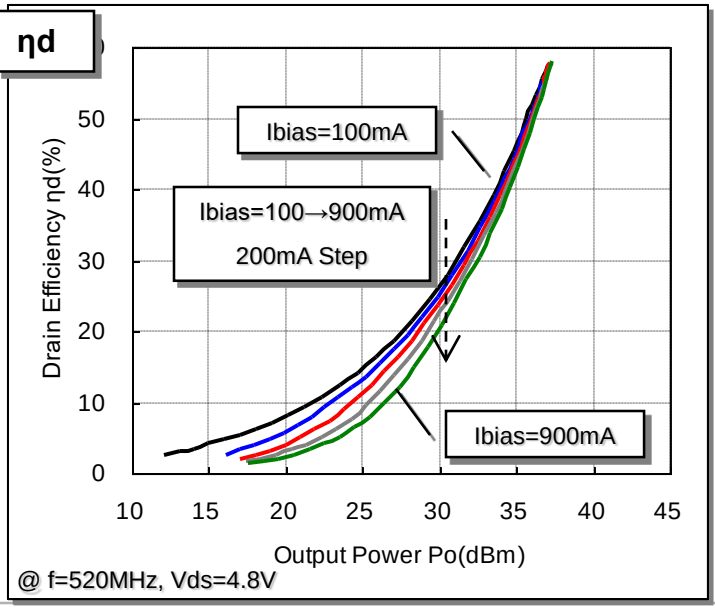
Input - Output Characteristics Vds＝4.8V - Condition 2

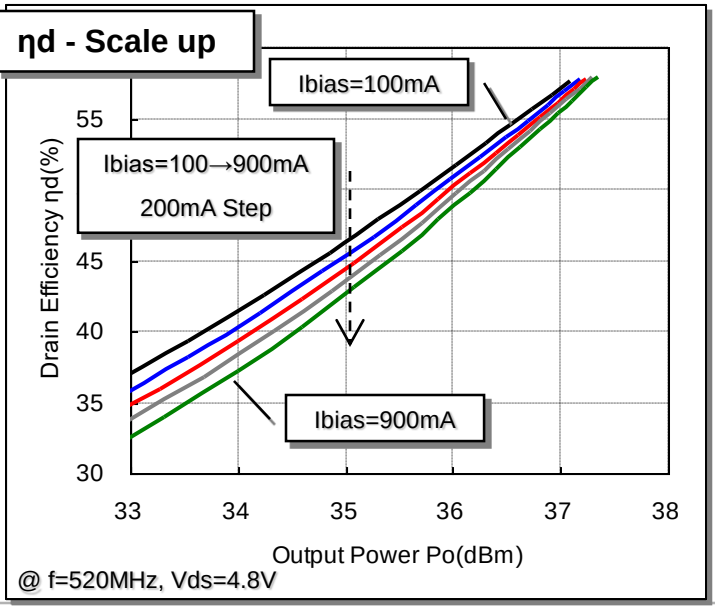








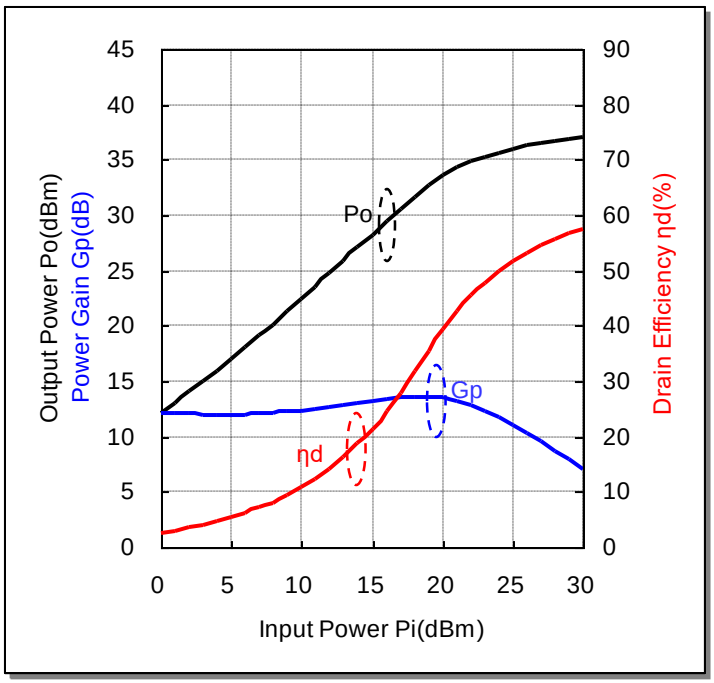




Input-Output Characteristics Vds＝4.8V, Ibias=100mA - Condition 2

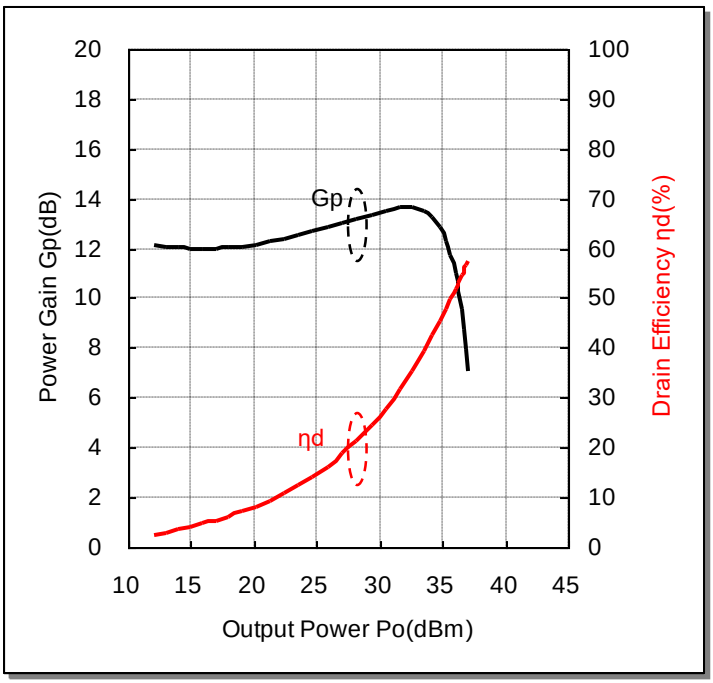
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=101.1mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=4.8V, Ibias=101.1mA

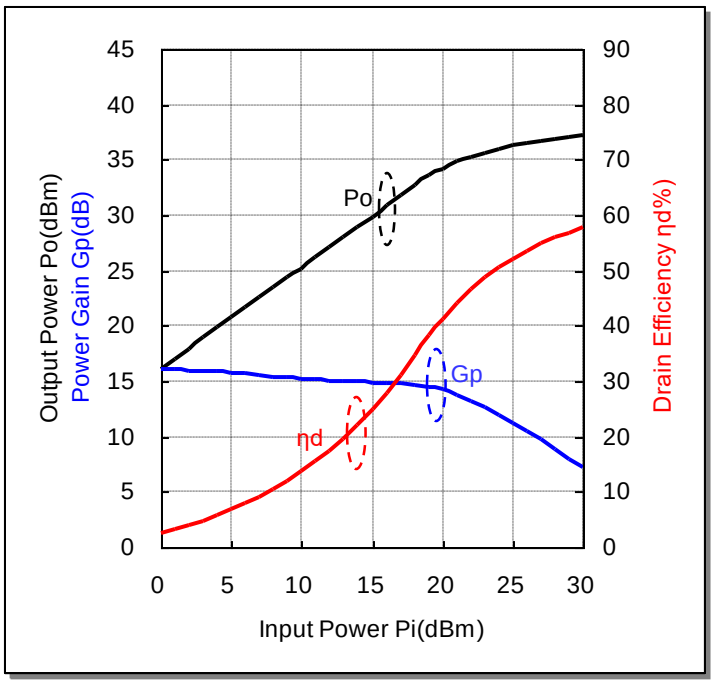
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.58	4.8	101.1	520	0.0	1.0	12.1	0.016	12.1	132	2.6
1.58	4.8	101.1	520	1.0	1.3	13.1	0.020	12.1	141	3.0
1.58	4.8	101.1	520	2.0	1.6	14.0	0.025	12.0	150	3.5
1.58	4.8	101.1	520	3.0	2.0	15.0	0.031	12.0	160	4.1
1.58	4.8	101.1	520	4.0	2.5	16.0	0.039	12.0	175	4.7
1.58	4.8	101.1	520	5.0	3.2	17.0	0.050	12.0	193	5.4
1.58	4.8	101.1	520	6.0	4.0	18.0	0.063	12.0	212	6.2
1.58	4.8	101.1	520	7.0	5.0	19.1	0.081	12.1	237	7.1
1.58	4.8	101.1	520	8.0	6.3	20.1	0.103	12.1	265	8.1
1.58	4.8	101.1	520	9.0	7.9	21.3	0.133	12.3	297	9.4
1.58	4.8	101.1	520	10.0	10.0	22.4	0.173	12.4	336	10.7
1.58	4.8	101.1	520	11.0	12.6	23.5	0.225	12.5	380	12.3
1.58	4.8	101.1	520	12.0	15.8	24.7	0.294	12.7	432	14.2
1.58	4.8	101.1	520	13.0	20.0	25.9	0.385	12.9	493	16.2
1.58	4.8	101.1	520	14.0	25.1	27.0	0.507	13.0	565	18.7
1.58	4.8	101.1	520	15.0	31.6	28.2	0.661	13.2	645	21.3
1.58	4.8	101.1	520	16.0	39.8	29.4	0.865	13.4	738	24.4
1.58	4.8	101.1	520	17.0	50.1	30.5	1.127	13.5	842	27.9
1.58	4.8	101.1	520	18.0	63.1	31.6	1.459	13.6	959	31.7
1.58	4.8	101.1	520	19.0	79.4	32.6	1.837	13.6	1078	35.5
1.58	4.8	101.1	520	20.0	100.0	33.5	2.254	13.5	1196	39.3
1.58	4.8	101.1	520	21.0	125.9	34.3	2.661	13.3	1302	42.6
1.58	4.8	101.1	520	22.0	158.5	34.8	3.055	12.8	1399	45.5
1.58	4.8	101.1	520	23.0	199.5	35.3	3.396	12.3	1478	47.9
1.58	4.8	101.1	520	24.0	251.2	35.7	3.707	11.7	1549	49.8
1.58	4.8	101.1	520	25.0	316.2	36.0	4.009	11.0	1615	51.7
1.58	4.8	101.1	520	26.0	398.1	36.3	4.266	10.3	1671	53.2
1.58	4.8	101.1	520	27.0	501.2	36.5	4.498	9.5	1721	54.4
1.58	4.8	101.1	520	28.0	631.0	36.7	4.710	8.7	1766	55.6
1.58	4.8	101.1	520	29.0	794.3	36.9	4.920	7.9	1811	56.6
1.58	4.8	101.1	520	30.0	1000.0	37.1	5.105	7.1	1848	57.6

Input-Output Characteristics Vds＝4.8V, Ibias=300mA - Condition 2

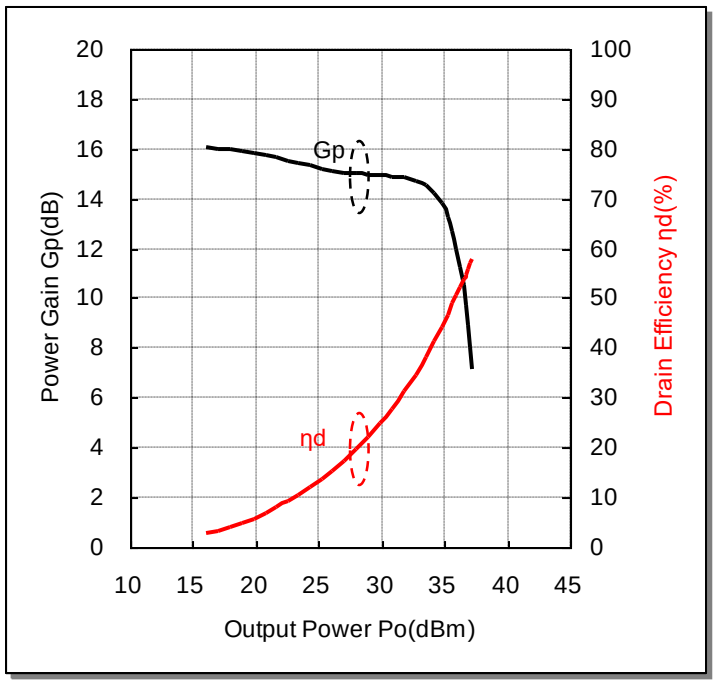
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=299.9mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=4.8V, Ibias=299.9mA

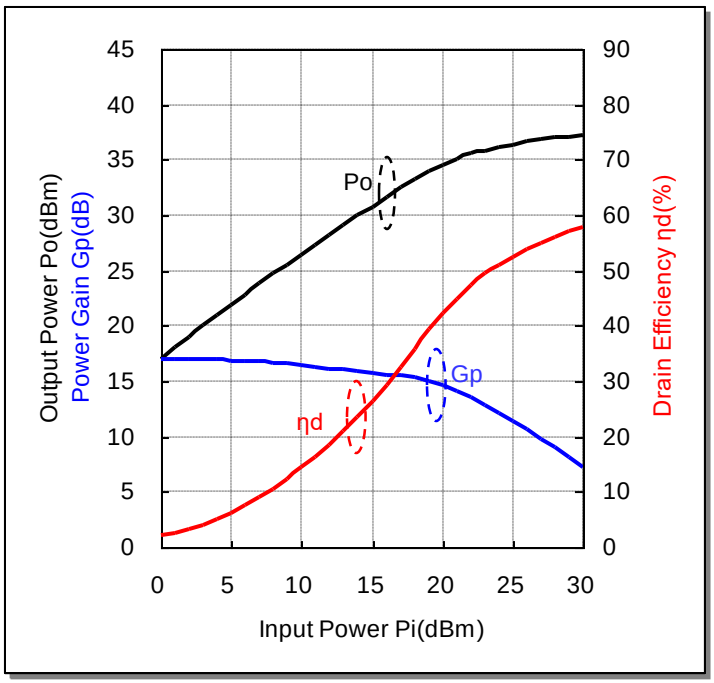
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.76	4.8	299.9	520	0.0	1.0	16.1	0.040	16.1	317	2.7
1.76	4.8	299.9	520	1.0	1.3	17.0	0.050	16.0	322	3.3
1.76	4.8	299.9	520	2.0	1.6	18.0	0.063	16.0	328	4.0
1.76	4.8	299.9	520	3.0	2.0	18.9	0.078	15.9	336	4.9
1.76	4.8	299.9	520	4.0	2.5	19.8	0.096	15.8	348	5.8
1.76	4.8	299.9	520	5.0	3.2	20.7	0.119	15.7	362	6.8
1.76	4.8	299.9	520	6.0	4.0	21.6	0.146	15.6	382	8.0
1.76	4.8	299.9	520	7.0	5.0	22.5	0.179	15.5	405	9.2
1.76	4.8	299.9	520	8.0	6.3	23.4	0.219	15.4	432	10.6
1.76	4.8	299.9	520	9.0	7.9	24.3	0.270	15.3	468	12.0
1.76	4.8	299.9	520	10.0	10.0	25.2	0.331	15.2	507	13.6
1.76	4.8	299.9	520	11.0	12.6	26.1	0.411	15.1	555	15.4
1.76	4.8	299.9	520	12.0	15.8	27.0	0.507	15.0	609	17.3
1.76	4.8	299.9	520	13.0	20.0	28.0	0.630	15.0	671	19.6
1.76	4.8	299.9	520	14.0	25.1	28.9	0.782	14.9	742	21.9
1.76	4.8	299.9	520	15.0	31.6	29.9	0.977	14.9	822	24.8
1.76	4.8	299.9	520	16.0	39.8	30.9	1.219	14.9	915	27.8
1.76	4.8	299.9	520	17.0	50.1	31.8	1.521	14.8	1017	31.2
1.76	4.8	299.9	520	18.0	63.1	32.7	1.862	14.7	1122	34.6
1.76	4.8	299.9	520	19.0	79.4	33.5	2.259	14.5	1233	38.2
1.76	4.8	299.9	520	20.0	100.0	34.2	2.636	14.2	1331	41.3
1.76	4.8	299.9	520	21.0	125.9	34.8	3.013	13.8	1422	44.2
1.76	4.8	299.9	520	22.0	158.5	35.3	3.357	13.3	1499	46.7
1.76	4.8	299.9	520	23.0	199.5	35.7	3.681	12.7	1571	48.8
1.76	4.8	299.9	520	24.0	251.2	36.0	3.963	12.0	1629	50.7
1.76	4.8	299.9	520	25.0	316.2	36.3	4.217	11.3	1683	52.2
1.76	4.8	299.9	520	26.0	398.1	36.5	4.457	10.5	1730	53.7
1.76	4.8	299.9	520	27.0	501.2	36.7	4.667	9.7	1774	54.8
1.76	4.8	299.9	520	28.0	631.0	36.9	4.875	8.9	1816	55.9
1.76	4.8	299.9	520	29.0	794.3	37.0	5.058	8.0	1852	56.9
1.76	4.8	299.9	520	30.0	1000.0	37.2	5.224	7.2	1885	57.7

Input-Output Characteristics Vds＝4.8V, Ibias=500mA - Condition 2

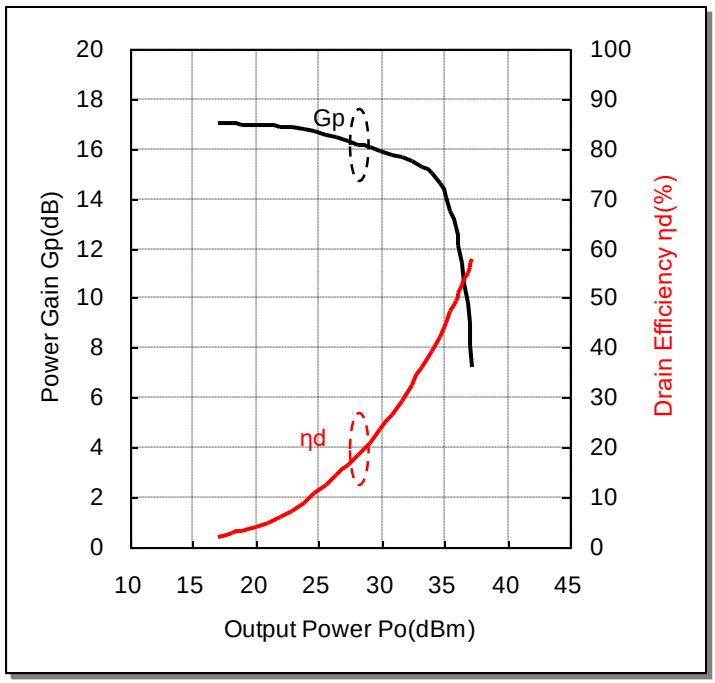
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=492.4mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=4.8V, Ibias=492.4mA

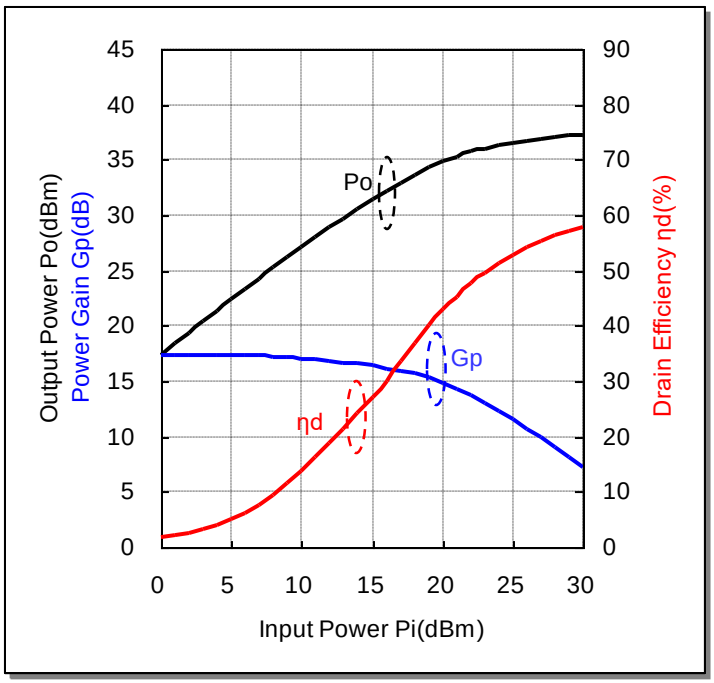
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.90	4.8	492.4	520	0.0	1.0	17.0	0.051	17.0	503	2.1
1.90	4.8	492.4	520	1.0	1.3	18.0	0.064	17.0	506	2.6
1.90	4.8	492.4	520	2.0	1.6	19.0	0.079	17.0	508	3.2
1.90	4.8	492.4	520	3.0	2.0	20.0	0.099	17.0	514	4.0
1.90	4.8	492.4	520	4.0	2.5	20.9	0.124	16.9	521	5.0
1.90	4.8	492.4	520	5.0	3.2	21.9	0.155	16.9	529	6.1
1.90	4.8	492.4	520	6.0	4.0	22.8	0.192	16.8	540	7.4
1.90	4.8	492.4	520	7.0	5.0	23.8	0.238	16.8	555	8.9
1.90	4.8	492.4	520	8.0	6.3	24.7	0.294	16.7	574	10.7
1.90	4.8	492.4	520	9.0	7.9	25.6	0.361	16.6	603	12.5
1.90	4.8	492.4	520	10.0	10.0	26.4	0.440	16.4	636	14.4
1.90	4.8	492.4	520	11.0	12.6	27.3	0.538	16.3	682	16.4
1.90	4.8	492.4	520	12.0	15.8	28.2	0.656	16.2	735	18.6
1.90	4.8	492.4	520	13.0	20.0	29.0	0.804	16.0	796	21.0
1.90	4.8	492.4	520	14.0	25.1	29.9	0.979	15.9	866	23.6
1.90	4.8	492.4	520	15.0	31.6	30.8	1.197	15.8	946	26.3
1.90	4.8	492.4	520	16.0	39.8	31.6	1.455	15.6	1033	29.4
1.90	4.8	492.4	520	17.0	50.1	32.5	1.770	15.5	1130	32.6
1.90	4.8	492.4	520	18.0	63.1	33.3	2.128	15.3	1233	36.0
1.90	4.8	492.4	520	19.0	79.4	34.0	2.512	15.0	1332	39.3
1.90	4.8	492.4	520	20.0	100.0	34.6	2.884	14.6	1422	42.2
1.90	4.8	492.4	520	21.0	125.9	35.1	3.228	14.1	1500	44.8
1.90	4.8	492.4	520	22.0	158.5	35.5	3.565	13.5	1569	47.3
1.90	4.8	492.4	520	23.0	199.5	35.9	3.864	12.9	1631	49.4
1.90	4.8	492.4	520	24.0	251.2	36.2	4.130	12.2	1683	51.1
1.90	4.8	492.4	520	25.0	316.2	36.4	4.365	11.4	1730	52.6
1.90	4.8	492.4	520	26.0	398.1	36.6	4.581	10.6	1773	53.8
1.90	4.8	492.4	520	27.0	501.2	36.8	4.797	9.8	1814	55.1
1.90	4.8	492.4	520	28.0	631.0	37.0	4.977	9.0	1849	56.1
1.90	4.8	492.4	520	29.0	794.3	37.1	5.152	8.1	1882	57.0
1.90	4.8	492.4	520	30.0	1000.0	37.2	5.297	7.2	1911	57.7

Input-Output Characteristics Vds＝4.8V, Ibias=700mA - Condition 2

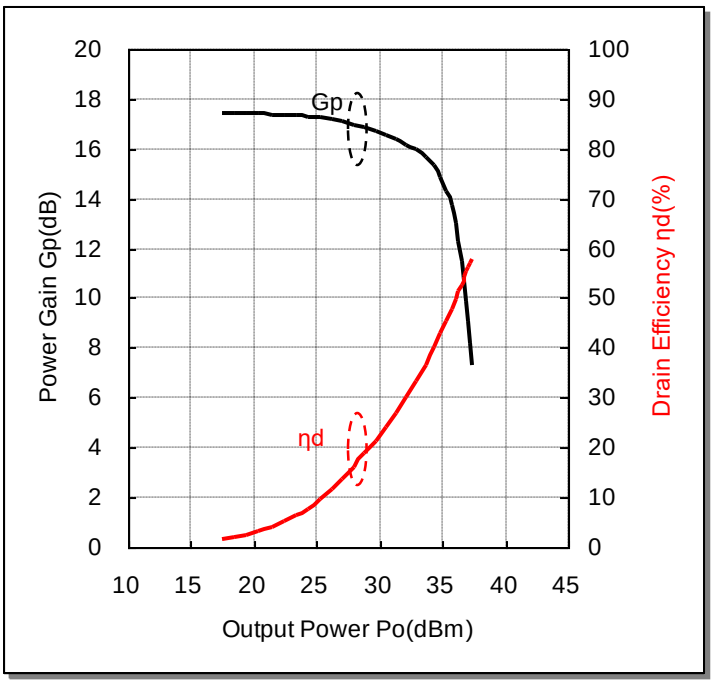
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=689.8mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=4.8V, Ibias=689.8mA

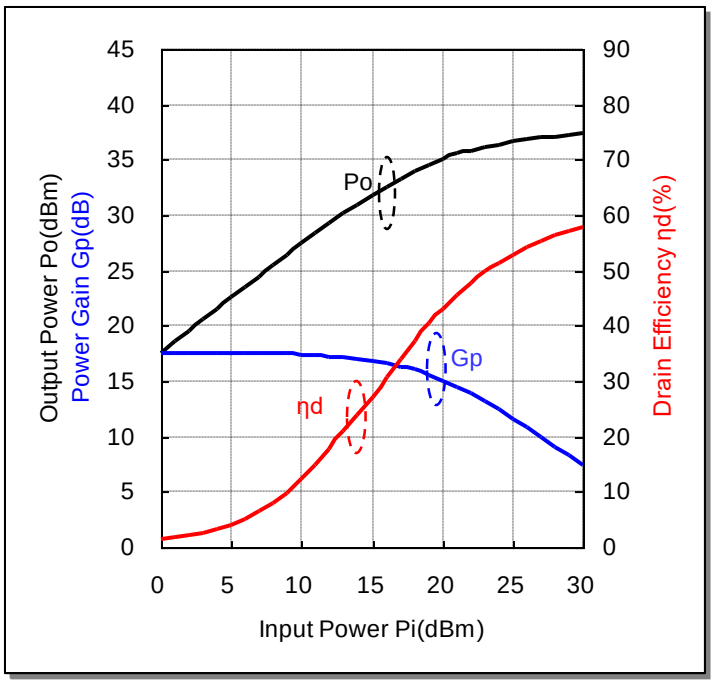
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.02	4.8	689.8	520	0.0	1.0	17.4	0.055	17.4	695	1.7
2.02	4.8	689.8	520	1.0	1.3	18.4	0.069	17.4	698	2.1
2.02	4.8	689.8	520	2.0	1.6	19.4	0.087	17.4	697	2.6
2.02	4.8	689.8	520	3.0	2.0	20.4	0.110	17.4	702	3.3
2.02	4.8	689.8	520	4.0	2.5	21.4	0.137	17.4	706	4.1
2.02	4.8	689.8	520	5.0	3.2	22.4	0.172	17.4	710	5.0
2.02	4.8	689.8	520	6.0	4.0	23.3	0.215	17.3	717	6.2
2.02	4.8	689.8	520	7.0	5.0	24.3	0.269	17.3	726	7.7
2.02	4.8	689.8	520	8.0	6.3	25.3	0.335	17.3	738	9.5
2.02	4.8	689.8	520	9.0	7.9	26.2	0.416	17.2	753	11.5
2.02	4.8	689.8	520	10.0	10.0	27.1	0.509	17.1	775	13.7
2.02	4.8	689.8	520	11.0	12.6	28.0	0.627	17.0	807	16.2
2.02	4.8	689.8	520	12.0	15.8	28.8	0.766	16.8	852	18.7
2.02	4.8	689.8	520	13.0	20.0	29.7	0.931	16.7	909	21.3
2.02	4.8	689.8	520	14.0	25.1	30.5	1.132	16.5	975	24.2
2.02	4.8	689.8	520	15.0	31.6	31.4	1.368	16.4	1051	27.1
2.02	4.8	689.8	520	16.0	39.8	32.2	1.644	16.2	1135	30.2
2.02	4.8	689.8	520	17.0	50.1	33.0	1.972	16.0	1228	33.5
2.02	4.8	689.8	520	18.0	63.1	33.7	2.333	15.7	1323	36.7
2.02	4.8	689.8	520	19.0	79.4	34.3	2.716	15.3	1414	40.0
2.02	4.8	689.8	520	20.0	100.0	34.9	3.076	14.9	1494	42.9
2.02	4.8	689.8	520	21.0	125.9	35.3	3.412	14.3	1567	45.4
2.02	4.8	689.8	520	22.0	158.5	35.7	3.724	13.7	1629	47.6
2.02	4.8	689.8	520	23.0	199.5	36.0	4.009	13.0	1682	49.7
2.02	4.8	689.8	520	24.0	251.2	36.3	4.256	12.3	1729	51.3
2.02	4.8	689.8	520	25.0	316.2	36.5	4.487	11.5	1770	52.8
2.02	4.8	689.8	520	26.0	398.1	36.7	4.699	10.7	1811	54.0
2.02	4.8	689.8	520	27.0	501.2	36.9	4.898	9.9	1846	55.3
2.02	4.8	689.8	520	28.0	631.0	37.0	5.070	9.0	1877	56.3
2.02	4.8	689.8	520	29.0	794.3	37.2	5.224	8.2	1907	57.1
2.02	4.8	689.8	520	30.0	1000.0	37.3	5.370	7.3	1934	57.9

Input-Output Characteristics Vds=4.8V, Ibias=900mA - Condition 2

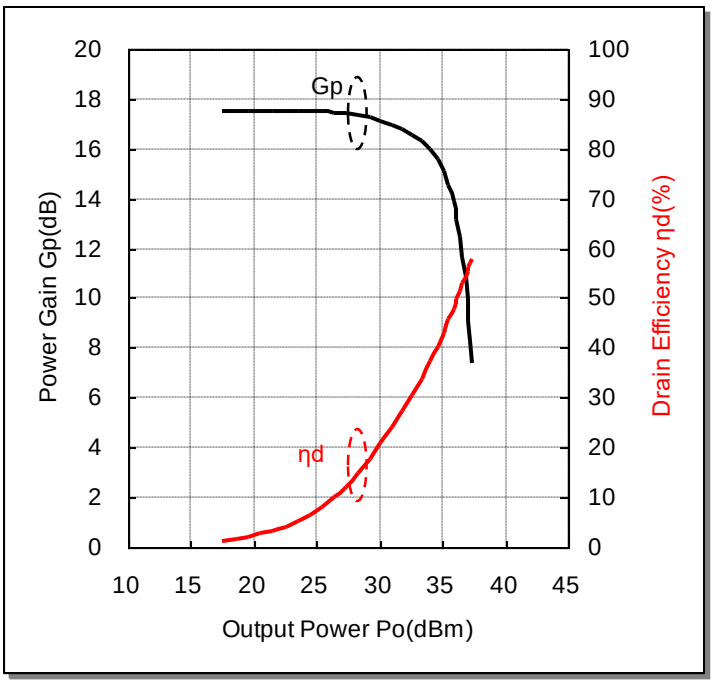
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=4.8V, Ibias=888.4mA

Power Gain, Drain Efficiency vs Output Power



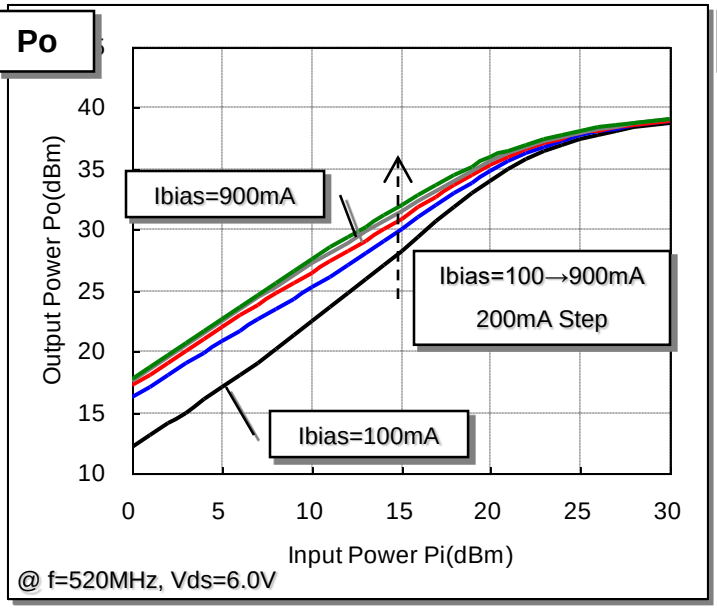
@ f=520MHz, Vds=4.8V, Ibias=888.4mA

Data

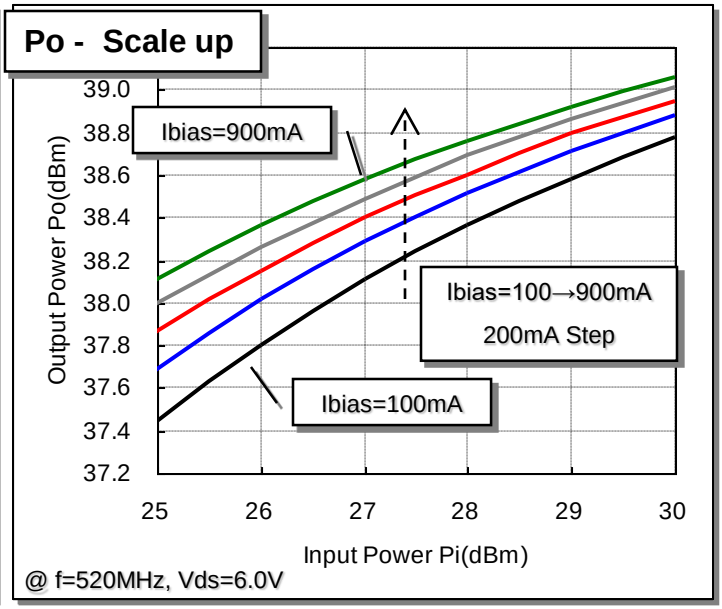
Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.13	4.8	888.4	520	0.0	1.0	17.5	0.057	17.5	893	1.3
2.13	4.8	888.4	520	1.0	1.3	18.5	0.071	17.5	894	1.7
2.13	4.8	888.4	520	2.0	1.6	19.5	0.090	17.5	894	2.1
2.13	4.8	888.4	520	3.0	2.0	20.5	0.113	17.5	897	2.6
2.13	4.8	888.4	520	4.0	2.5	21.5	0.142	17.5	899	3.3
2.13	4.8	888.4	520	5.0	3.2	22.5	0.179	17.5	903	4.1
2.13	4.8	888.4	520	6.0	4.0	23.5	0.224	17.5	906	5.1
2.13	4.8	888.4	520	7.0	5.0	24.5	0.281	17.5	912	6.4
2.13	4.8	888.4	520	8.0	6.3	25.5	0.352	17.5	919	8.0
2.13	4.8	888.4	520	9.0	7.9	26.4	0.441	17.4	928	9.9
2.13	4.8	888.4	520	10.0	10.0	27.4	0.550	17.4	940	12.2
2.13	4.8	888.4	520	11.0	12.6	28.3	0.682	17.3	961	14.8
2.13	4.8	888.4	520	12.0	15.8	29.2	0.839	17.2	986	17.7
2.13	4.8	888.4	520	13.0	20.0	30.1	1.026	17.1	1027	20.8
2.13	4.8	888.4	520	14.0	25.1	31.0	1.250	17.0	1084	24.0
2.13	4.8	888.4	520	15.0	31.6	31.8	1.510	16.8	1155	27.2
2.13	4.8	888.4	520	16.0	39.8	32.6	1.811	16.6	1235	30.6
2.13	4.8	888.4	520	17.0	50.1	33.3	2.148	16.3	1321	33.9
2.13	4.8	888.4	520	18.0	63.1	34.0	2.518	16.0	1409	37.2
2.13	4.8	888.4	520	19.0	79.4	34.6	2.884	15.6	1490	40.3
2.13	4.8	888.4	520	20.0	100.0	35.1	3.228	15.1	1562	43.1
2.13	4.8	888.4	520	21.0	125.9	35.5	3.565	14.5	1627	45.7
2.13	4.8	888.4	520	22.0	158.5	35.9	3.864	13.9	1682	47.9
2.13	4.8	888.4	520	23.0	199.5	36.2	4.130	13.2	1730	49.8
2.13	4.8	888.4	520	24.0	251.2	36.4	4.375	12.4	1771	51.5
2.13	4.8	888.4	520	25.0	316.2	36.6	4.603	11.6	1811	52.9
2.13	4.8	888.4	520	26.0	398.1	36.8	4.797	10.8	1845	54.2
2.13	4.8	888.4	520	27.0	501.2	37.0	4.977	10.0	1875	55.3
2.13	4.8	888.4	520	28.0	631.0	37.1	5.140	9.1	1904	56.2
2.13	4.8	888.4	520	29.0	794.3	37.2	5.297	8.2	1931	57.2
2.13	4.8	888.4	520	30.0	1000.0	37.3	5.433	7.3	1955	57.9

Input - Output Characteristics Vds＝6.0V - Condition 2

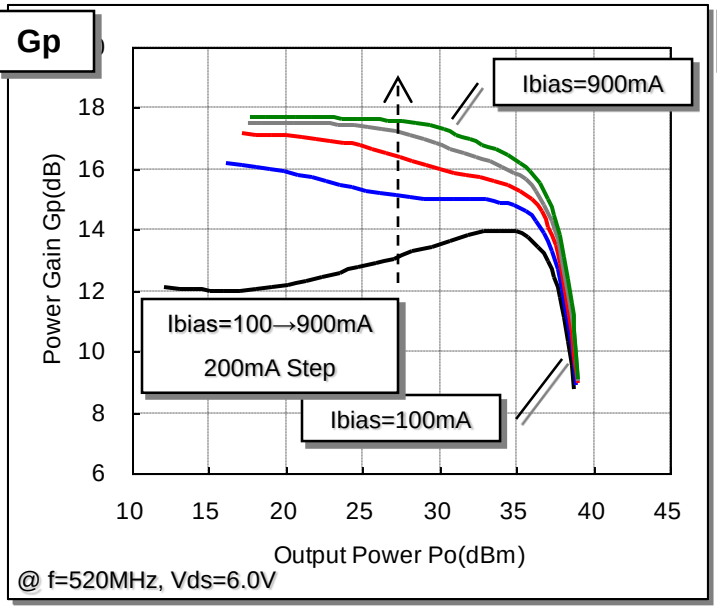
Po



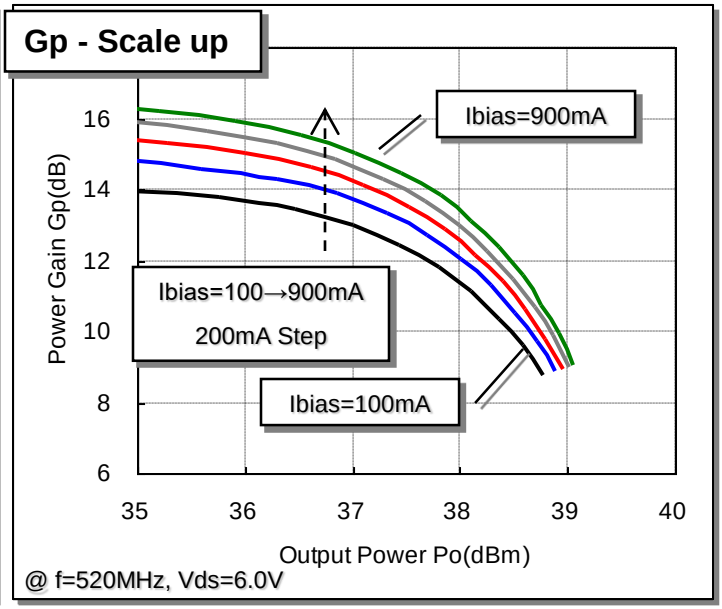
Po - Scale up



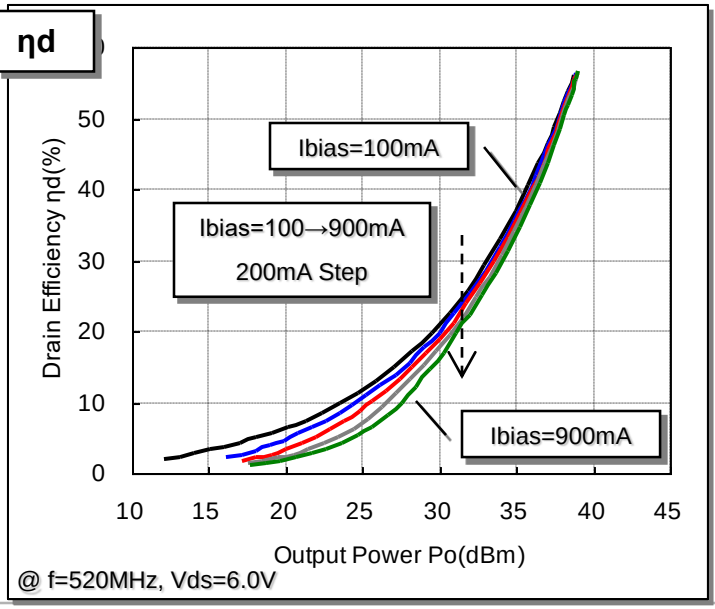
Gp



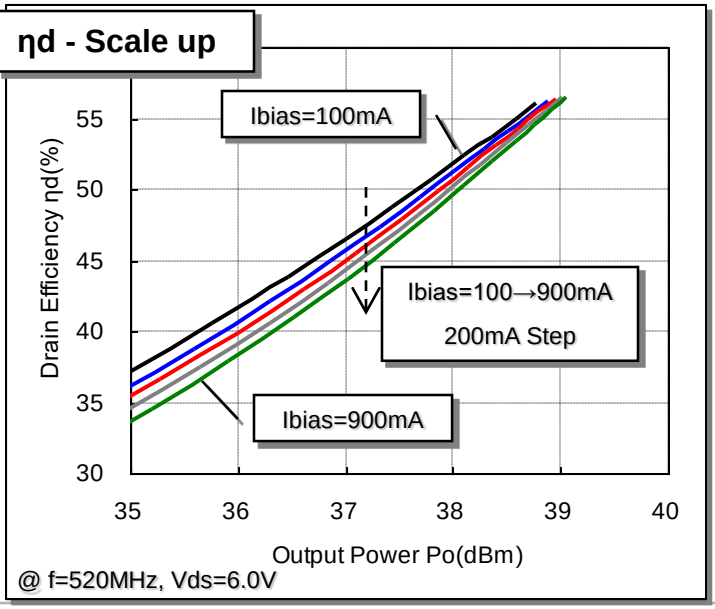
Gp - Scale up



ηd



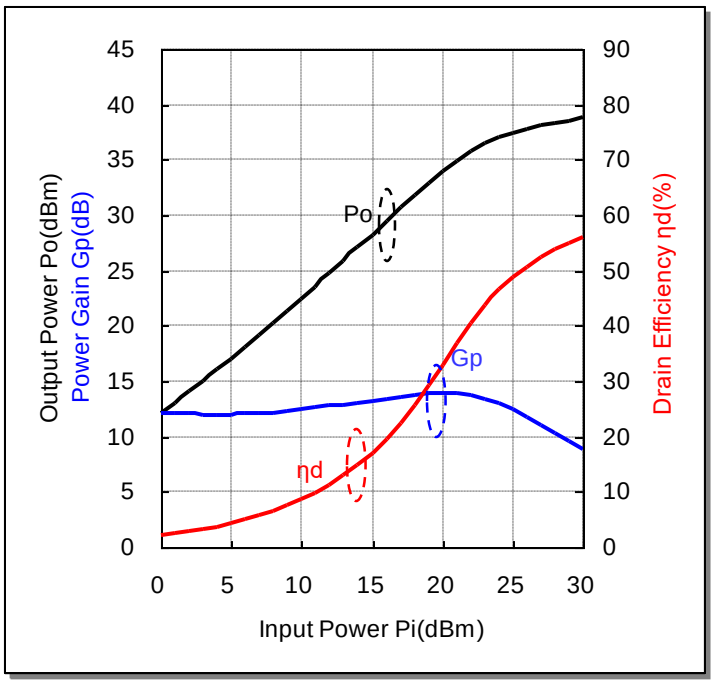
ηd - Scale up



Input-Output Characteristics Vds＝6.0V, Ibias=100mA - Condition 2

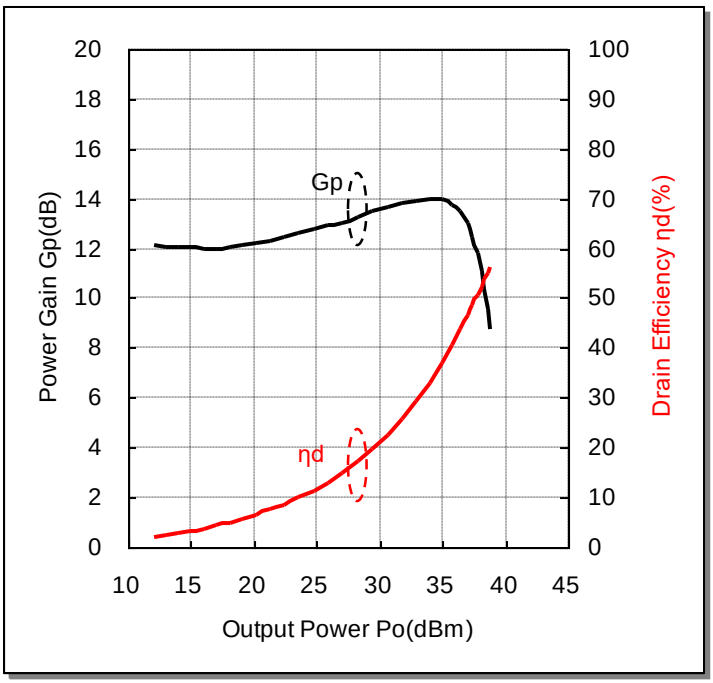
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=100.3mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=6.0V, Ibias=100.3mA

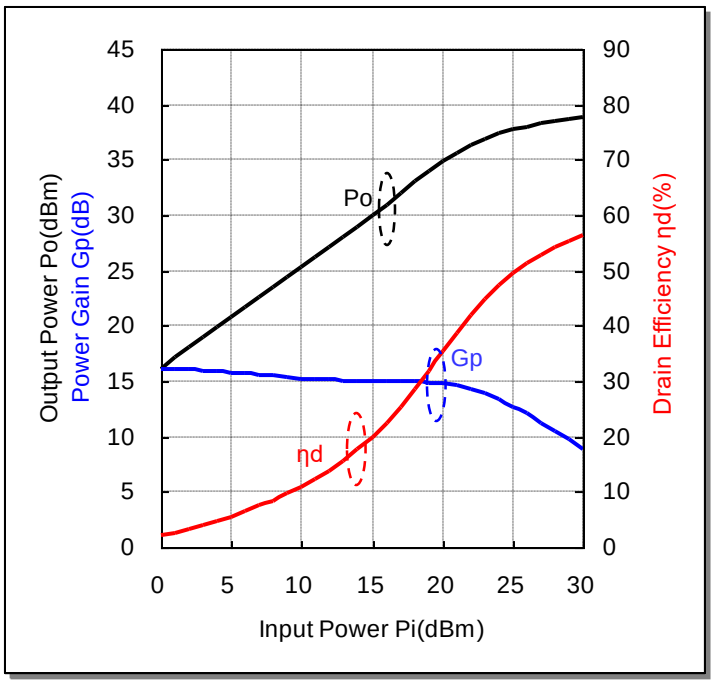
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.55	6.0	100.3	520	0.0	1.0	12.1	0.016	12.1	132	2.0
1.55	6.0	100.3	520	1.0	1.3	13.1	0.020	12.1	142	2.4
1.55	6.0	100.3	520	2.0	1.6	14.0	0.025	12.0	151	2.8
1.55	6.0	100.3	520	3.0	2.0	15.0	0.032	12.0	163	3.2
1.55	6.0	100.3	520	4.0	2.5	16.0	0.040	12.0	177	3.8
1.55	6.0	100.3	520	5.0	3.2	17.0	0.050	12.0	194	4.3
1.55	6.0	100.3	520	6.0	4.0	18.0	0.064	12.0	215	5.0
1.55	6.0	100.3	520	7.0	5.0	19.1	0.081	12.1	238	5.7
1.55	6.0	100.3	520	8.0	6.3	20.2	0.104	12.2	266	6.5
1.55	6.0	100.3	520	9.0	7.9	21.3	0.135	12.3	301	7.4
1.55	6.0	100.3	520	10.0	10.0	22.4	0.175	12.4	340	8.5
1.55	6.0	100.3	520	11.0	12.6	23.6	0.228	12.6	386	9.8
1.55	6.0	100.3	520	12.0	15.8	24.8	0.299	12.8	439	11.3
1.55	6.0	100.3	520	13.0	20.0	25.9	0.390	12.9	501	13.0
1.55	6.0	100.3	520	14.0	25.1	27.0	0.507	13.0	571	14.8
1.55	6.0	100.3	520	15.0	31.6	28.3	0.671	13.3	655	17.1
1.55	6.0	100.3	520	16.0	39.8	29.5	0.883	13.5	749	19.7
1.55	6.0	100.3	520	17.0	50.1	30.6	1.159	13.6	857	22.5
1.55	6.0	100.3	520	18.0	63.1	31.8	1.514	13.8	981	25.7
1.55	6.0	100.3	520	19.0	79.4	32.9	1.963	13.9	1117	29.3
1.55	6.0	100.3	520	20.0	100.0	34.0	2.495	14.0	1260	33.0
1.55	6.0	100.3	520	21.0	125.9	34.9	3.119	13.9	1409	36.9
1.55	6.0	100.3	520	22.0	158.5	35.8	3.776	13.8	1552	40.5
1.55	6.0	100.3	520	23.0	199.5	36.5	4.426	13.5	1685	43.8
1.55	6.0	100.3	520	24.0	251.2	37.0	5.012	13.0	1798	46.4
1.55	6.0	100.3	520	25.0	316.2	37.4	5.546	12.4	1896	48.8
1.55	6.0	100.3	520	26.0	398.1	37.8	6.026	11.8	1982	50.7
1.55	6.0	100.3	520	27.0	501.2	38.1	6.471	11.1	2061	52.3
1.55	6.0	100.3	520	28.0	631.0	38.4	6.855	10.4	2128	53.7
1.55	6.0	100.3	520	29.0	794.3	38.6	7.211	9.6	2189	54.9
1.55	6.0	100.3	520	30.0	1000.0	38.8	7.551	8.8	2246	56.0

Input-Output Characteristics Vds＝6.0V, Ibias=300mA - Condition 2

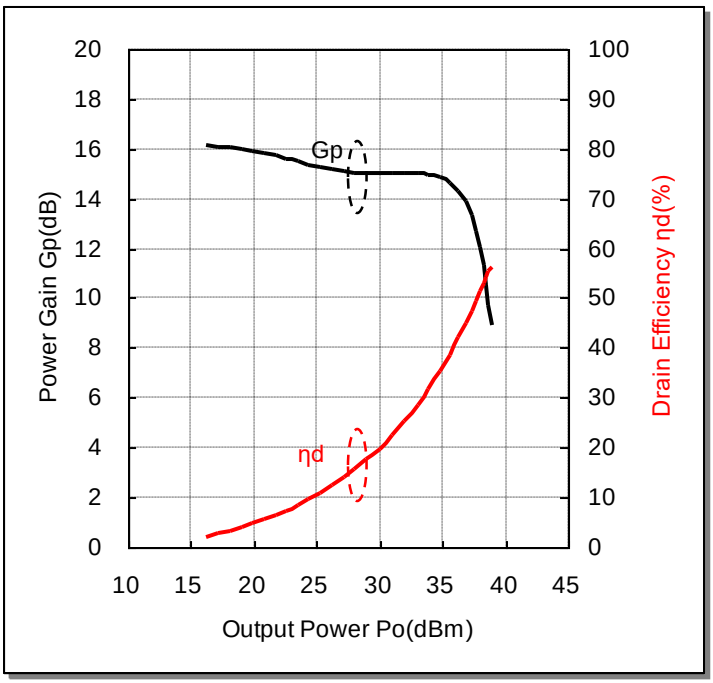
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=300.2mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=6.0V, Ibias=300.2mA

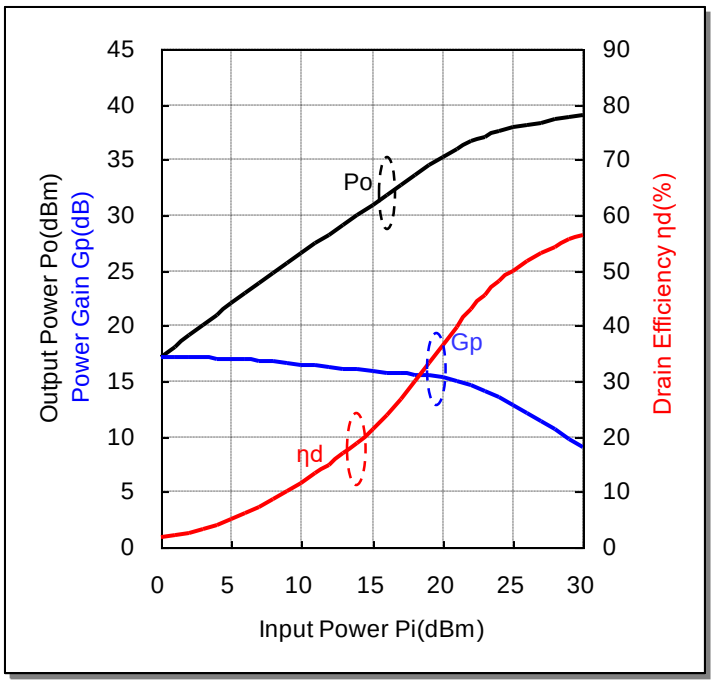
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.73	6.0	300.2	520	0.0	1.0	16.2	0.041	16.2	319	2.2
1.73	6.0	300.2	520	1.0	1.3	17.1	0.051	16.1	322	2.7
1.73	6.0	300.2	520	2.0	1.6	18.0	0.064	16.0	330	3.2
1.73	6.0	300.2	520	3.0	2.0	19.0	0.079	16.0	339	3.9
1.73	6.0	300.2	520	4.0	2.5	19.9	0.098	15.9	351	4.6
1.73	6.0	300.2	520	5.0	3.2	20.8	0.121	15.8	365	5.5
1.73	6.0	300.2	520	6.0	4.0	21.7	0.148	15.7	383	6.4
1.73	6.0	300.2	520	7.0	5.0	22.6	0.182	15.6	409	7.4
1.73	6.0	300.2	520	8.0	6.3	23.5	0.223	15.5	438	8.5
1.73	6.0	300.2	520	9.0	7.9	24.4	0.274	15.4	473	9.6
1.73	6.0	300.2	520	10.0	10.0	25.3	0.337	15.3	513	10.9
1.73	6.0	300.2	520	11.0	12.6	26.2	0.415	15.2	562	12.3
1.73	6.0	300.2	520	12.0	15.8	27.1	0.514	15.1	618	13.9
1.73	6.0	300.2	520	13.0	20.0	28.0	0.637	15.0	680	15.6
1.73	6.0	300.2	520	14.0	25.1	29.0	0.794	15.0	751	17.6
1.73	6.0	300.2	520	15.0	31.6	30.0	0.995	15.0	838	19.8
1.73	6.0	300.2	520	16.0	39.8	31.0	1.256	15.0	933	22.4
1.73	6.0	300.2	520	17.0	50.1	32.0	1.581	15.0	1041	25.3
1.73	6.0	300.2	520	18.0	63.1	33.0	1.995	15.0	1165	28.6
1.73	6.0	300.2	520	19.0	79.4	33.9	2.455	14.9	1286	31.8
1.73	6.0	300.2	520	20.0	100.0	34.8	3.034	14.8	1428	35.4
1.73	6.0	300.2	520	21.0	125.9	35.6	3.622	14.6	1559	38.7
1.73	6.0	300.2	520	22.0	158.5	36.3	4.266	14.3	1690	42.1
1.73	6.0	300.2	520	23.0	199.5	36.9	4.853	13.9	1800	44.9
1.73	6.0	300.2	520	24.0	251.2	37.3	5.395	13.3	1898	47.4
1.73	6.0	300.2	520	25.0	316.2	37.7	5.875	12.7	1983	49.4
1.73	6.0	300.2	520	26.0	398.1	38.0	6.339	12.0	2060	51.3
1.73	6.0	300.2	520	27.0	501.2	38.3	6.745	11.3	2127	52.9
1.73	6.0	300.2	520	28.0	631.0	38.5	7.096	10.5	2187	54.1
1.73	6.0	300.2	520	29.0	794.3	38.7	7.430	9.7	2241	55.3
1.73	6.0	300.2	520	30.0	1000.0	38.9	7.727	8.9	2291	56.2

Input-Output Characteristics Vds＝6.0V, Ibias=500mA - Condition 2

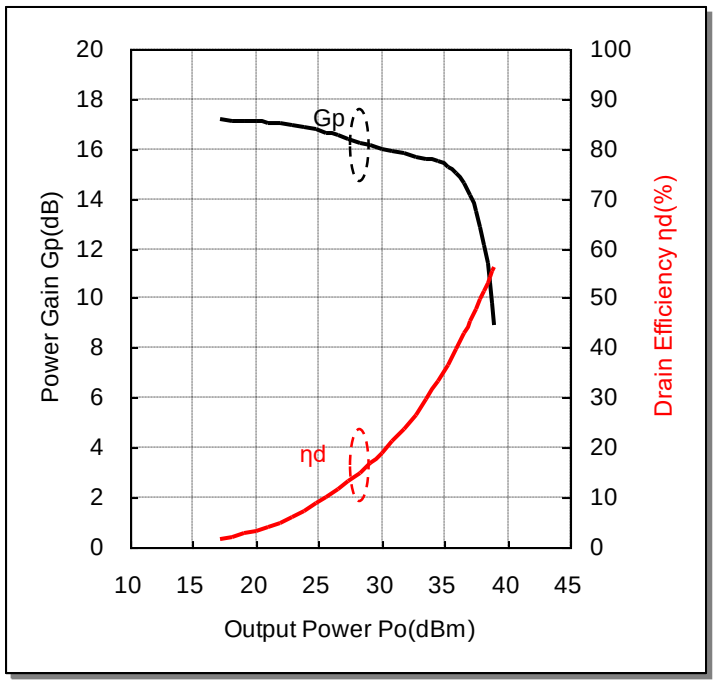
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=490.3mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=6.0V, Ibias=490.3mA

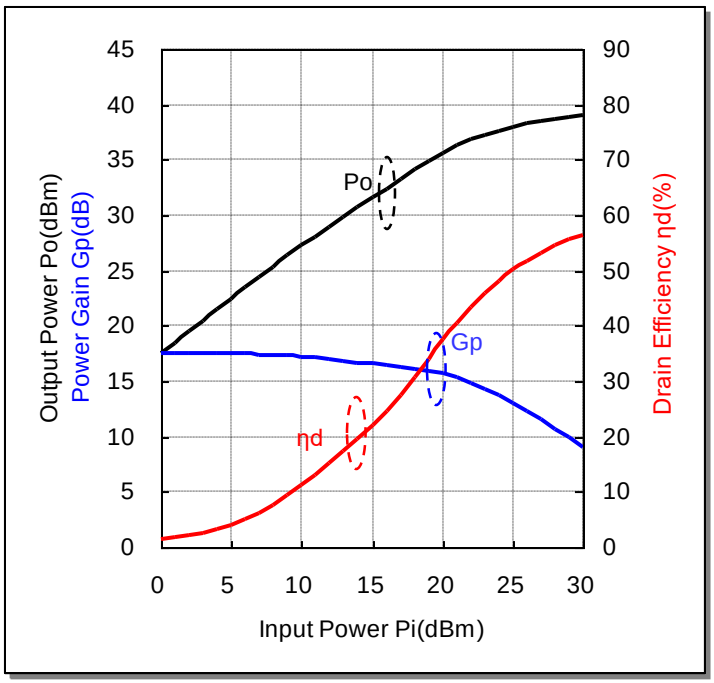
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.86	6.0	490.3	520	0.0	1.0	17.1	0.052	17.1	500	1.7
1.86	6.0	490.3	520	1.0	1.3	18.1	0.065	17.1	503	2.1
1.86	6.0	490.3	520	2.0	1.6	19.1	0.081	17.1	509	2.7
1.86	6.0	490.3	520	3.0	2.0	20.1	0.102	17.1	513	3.3
1.86	6.0	490.3	520	4.0	2.5	21.0	0.127	17.0	518	4.1
1.86	6.0	490.3	520	5.0	3.2	22.0	0.158	17.0	529	5.0
1.86	6.0	490.3	520	6.0	4.0	22.9	0.196	16.9	540	6.1
1.86	6.0	490.3	520	7.0	5.0	23.9	0.243	16.9	554	7.3
1.86	6.0	490.3	520	8.0	6.3	24.8	0.300	16.8	577	8.7
1.86	6.0	490.3	520	9.0	7.9	25.6	0.366	16.6	606	10.1
1.86	6.0	490.3	520	10.0	10.0	26.5	0.448	16.5	644	11.6
1.86	6.0	490.3	520	11.0	12.6	27.4	0.548	16.4	691	13.2
1.86	6.0	490.3	520	12.0	15.8	28.3	0.668	16.3	745	15.0
1.86	6.0	490.3	520	13.0	20.0	29.1	0.815	16.1	807	16.8
1.86	6.0	490.3	520	14.0	25.1	30.0	1.000	16.0	880	18.9
1.86	6.0	490.3	520	15.0	31.6	30.9	1.227	15.9	964	21.2
1.86	6.0	490.3	520	16.0	39.8	31.8	1.510	15.8	1056	23.8
1.86	6.0	490.3	520	17.0	50.1	32.7	1.862	15.7	1163	26.7
1.86	6.0	490.3	520	18.0	63.1	33.6	2.291	15.6	1280	29.8
1.86	6.0	490.3	520	19.0	79.4	34.5	2.805	15.5	1408	33.2
1.86	6.0	490.3	520	20.0	100.0	35.3	3.373	15.3	1538	36.6
1.86	6.0	490.3	520	21.0	125.9	36.0	3.990	15.0	1666	39.9
1.86	6.0	490.3	520	22.0	158.5	36.6	4.581	14.6	1780	42.9
1.86	6.0	490.3	520	23.0	199.5	37.1	5.129	14.1	1879	45.5
1.86	6.0	490.3	520	24.0	251.2	37.5	5.649	13.5	1966	47.9
1.86	6.0	490.3	520	25.0	316.2	37.9	6.124	12.9	2044	49.9
1.86	6.0	490.3	520	26.0	398.1	38.2	6.531	12.2	2112	51.6
1.86	6.0	490.3	520	27.0	501.2	38.4	6.918	11.4	2172	53.1
1.86	6.0	490.3	520	28.0	631.0	38.6	7.244	10.6	2226	54.2
1.86	6.0	490.3	520	29.0	794.3	38.8	7.586	9.8	2278	55.5
1.86	6.0	490.3	520	30.0	1000.0	39.0	7.852	9.0	2321	56.4

Input-Output Characteristics Vds＝6.0V, Ibias=700mA - Condition 2

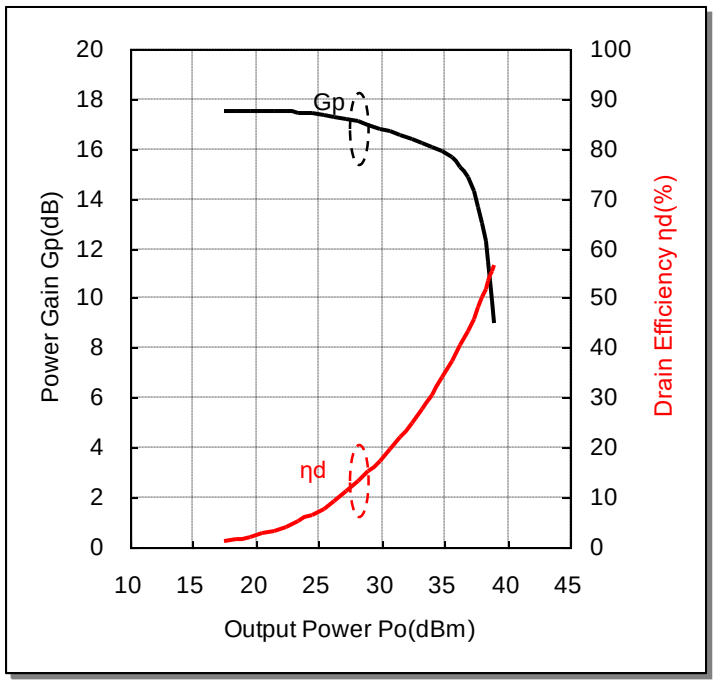
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=686.2mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=6.0V, Ibias=686.2mA

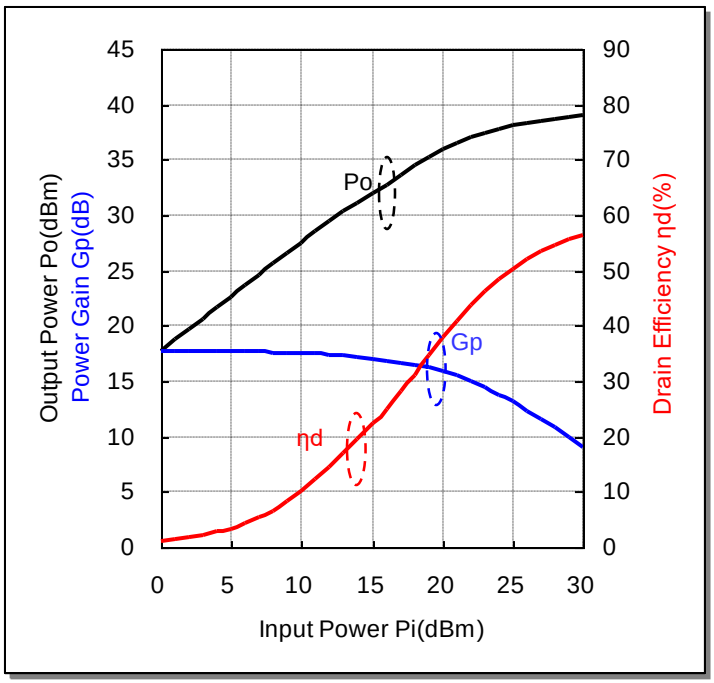
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.98	6.0	686.2	520	0.0	1.0	17.5	0.056	17.5	696	1.4
1.98	6.0	686.2	520	1.0	1.3	18.5	0.071	17.5	697	1.7
1.98	6.0	686.2	520	2.0	1.6	19.5	0.089	17.5	699	2.1
1.98	6.0	686.2	520	3.0	2.0	20.5	0.112	17.5	703	2.7
1.98	6.0	686.2	520	4.0	2.5	21.5	0.141	17.5	706	3.3
1.98	6.0	686.2	520	5.0	3.2	22.5	0.177	17.5	711	4.1
1.98	6.0	686.2	520	6.0	4.0	23.4	0.221	17.4	718	5.1
1.98	6.0	686.2	520	7.0	5.0	24.4	0.276	17.4	729	6.3
1.98	6.0	686.2	520	8.0	6.3	25.4	0.344	17.4	741	7.7
1.98	6.0	686.2	520	9.0	7.9	26.3	0.427	17.3	757	9.4
1.98	6.0	686.2	520	10.0	10.0	27.2	0.526	17.2	784	11.2
1.98	6.0	686.2	520	11.0	12.6	28.1	0.646	17.1	818	13.2
1.98	6.0	686.2	520	12.0	15.8	29.0	0.787	17.0	866	15.2
1.98	6.0	686.2	520	13.0	20.0	29.8	0.959	16.8	924	17.3
1.98	6.0	686.2	520	14.0	25.1	30.7	1.167	16.7	995	19.5
1.98	6.0	686.2	520	15.0	31.6	31.5	1.426	16.5	1076	22.1
1.98	6.0	686.2	520	16.0	39.8	32.4	1.730	16.4	1167	24.7
1.98	6.0	686.2	520	17.0	50.1	33.2	2.109	16.2	1272	27.6
1.98	6.0	686.2	520	18.0	63.1	34.1	2.553	16.1	1387	30.7
1.98	6.0	686.2	520	19.0	79.4	34.9	3.083	15.9	1508	34.1
1.98	6.0	686.2	520	20.0	100.0	35.7	3.673	15.7	1635	37.4
1.98	6.0	686.2	520	21.0	125.9	36.3	4.266	15.3	1751	40.6
1.98	6.0	686.2	520	22.0	158.5	36.8	4.831	14.8	1856	43.4
1.98	6.0	686.2	520	23.0	199.5	37.3	5.358	14.3	1945	45.9
1.98	6.0	686.2	520	24.0	251.2	37.7	5.861	13.7	2026	48.2
1.98	6.0	686.2	520	25.0	316.2	38.0	6.310	13.0	2096	50.2
1.98	6.0	686.2	520	26.0	398.1	38.3	6.699	12.3	2157	51.8
1.98	6.0	686.2	520	27.0	501.2	38.5	7.063	11.5	2212	53.2
1.98	6.0	686.2	520	28.0	631.0	38.7	7.396	10.7	2264	54.4
1.98	6.0	686.2	520	29.0	794.3	38.9	7.691	9.9	2309	55.5
1.98	6.0	686.2	520	30.0	1000.0	39.0	7.962	9.0	2349	56.5

Input-Output Characteristics Vds=6.0V, Ibias=900mA - Condition 2

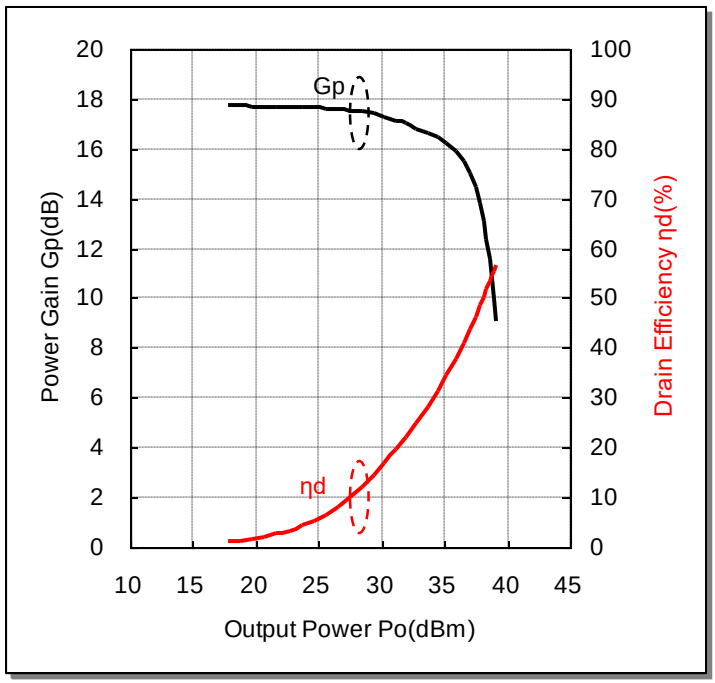
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=6.0V, Ibias=888.5mA

Power Gain, Drain Efficiency vs Output Power



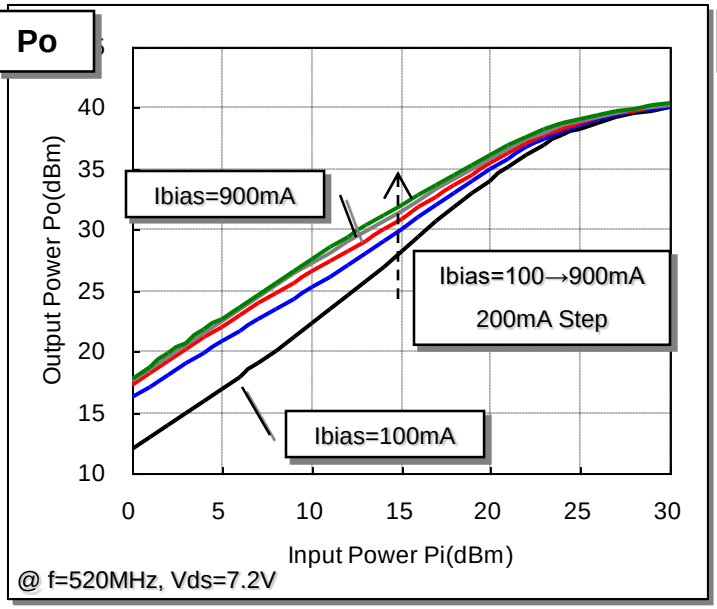
@ f=520MHz, Vds=6.0V, Ibias=888.5mA

Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.10	6.0	888.5	520	0.0	1.0	17.7	0.059	17.7	893	1.1
2.10	6.0	888.5	520	1.0	1.3	18.7	0.075	17.7	896	1.4
2.10	6.0	888.5	520	2.0	1.6	19.7	0.093	17.7	897	1.7
2.10	6.0	888.5	520	3.0	2.0	20.7	0.117	17.7	899	2.2
2.10	6.0	888.5	520	4.0	2.5	21.7	0.148	17.7	901	2.7
2.10	6.0	888.5	520	5.0	3.2	22.7	0.185	17.7	904	3.4
2.10	6.0	888.5	520	6.0	4.0	23.7	0.232	17.7	909	4.3
2.10	6.0	888.5	520	7.0	5.0	24.6	0.291	17.6	915	5.3
2.10	6.0	888.5	520	8.0	6.3	25.6	0.364	17.6	924	6.6
2.10	6.0	888.5	520	9.0	7.9	26.6	0.456	17.6	932	8.2
2.10	6.0	888.5	520	10.0	10.0	27.5	0.569	17.5	949	10.0
2.10	6.0	888.5	520	11.0	12.6	28.5	0.706	17.5	969	12.1
2.10	6.0	888.5	520	12.0	15.8	29.4	0.873	17.4	1002	14.5
2.10	6.0	888.5	520	13.0	20.0	30.3	1.067	17.3	1044	17.0
2.10	6.0	888.5	520	14.0	25.1	31.1	1.300	17.1	1106	19.6
2.10	6.0	888.5	520	15.0	31.6	32.0	1.581	17.0	1184	22.3
2.10	6.0	888.5	520	16.0	39.8	32.8	1.905	16.8	1271	25.0
2.10	6.0	888.5	520	17.0	50.1	33.6	2.312	16.6	1372	28.1
2.10	6.0	888.5	520	18.0	63.1	34.4	2.773	16.4	1482	31.2
2.10	6.0	888.5	520	19.0	79.4	35.2	3.319	16.2	1602	34.5
2.10	6.0	888.5	520	20.0	100.0	35.9	3.899	15.9	1718	37.8
2.10	6.0	888.5	520	21.0	125.9	36.5	4.498	15.5	1830	41.0
2.10	6.0	888.5	520	22.0	158.5	37.0	5.047	15.0	1924	43.7
2.10	6.0	888.5	520	23.0	199.5	37.5	5.572	14.5	2007	46.3
2.10	6.0	888.5	520	24.0	251.2	37.8	6.053	13.8	2081	48.5
2.10	6.0	888.5	520	25.0	316.2	38.1	6.471	13.1	2144	50.3
2.10	6.0	888.5	520	26.0	398.1	38.4	6.855	12.4	2200	51.9
2.10	6.0	888.5	520	27.0	501.2	38.6	7.211	11.6	2252	53.4
2.10	6.0	888.5	520	28.0	631.0	38.8	7.516	10.8	2297	54.5
2.10	6.0	888.5	520	29.0	794.3	38.9	7.798	9.9	2338	55.6
2.10	6.0	888.5	520	30.0	1000.0	39.1	8.054	9.1	2375	56.5

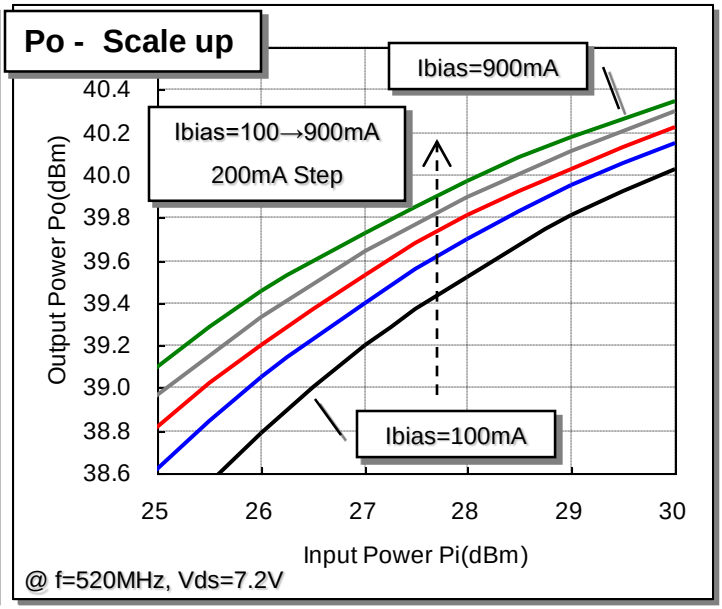
Input - Output Characteristics Vds＝7.2V - Condition 2

Po



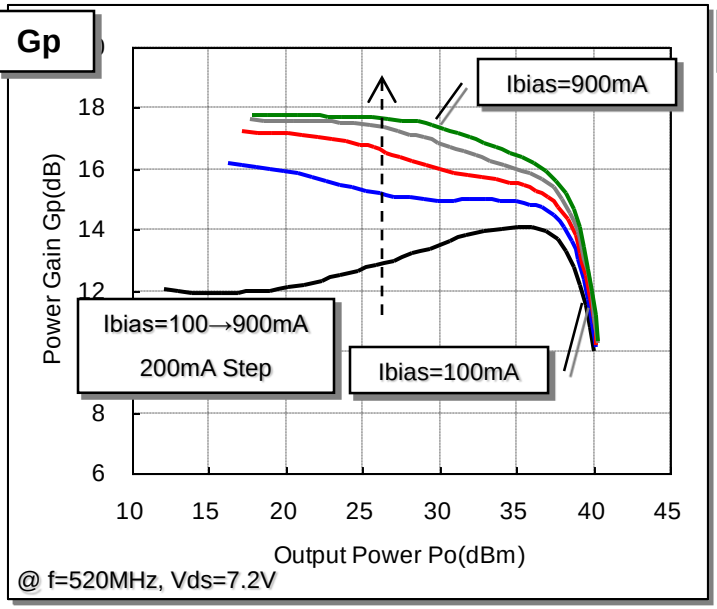
@ f=520MHz, Vds=7.2V

Po - Scale up



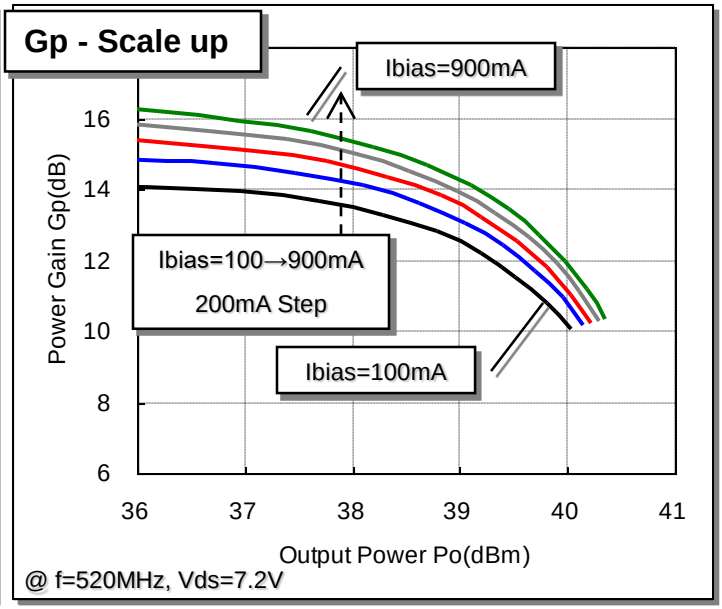
@ f=520MHz, Vds=7.2V

Gp



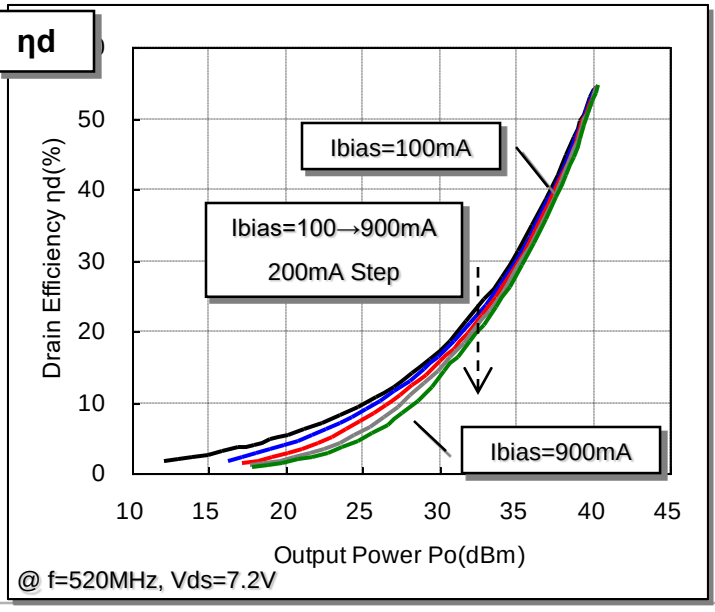
@ f=520MHz, Vds=7.2V

Gp - Scale up



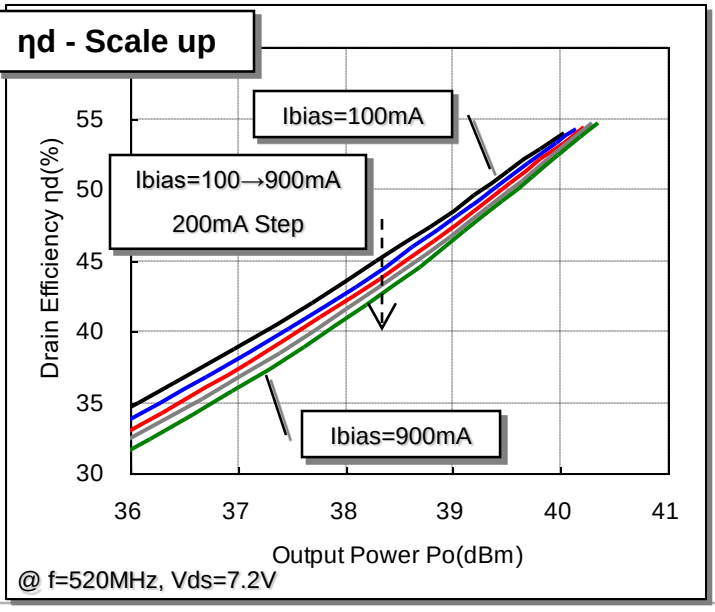
@ f=520MHz, Vds=7.2V

ηd



@ f=520MHz, Vds=7.2V

ηd - Scale up

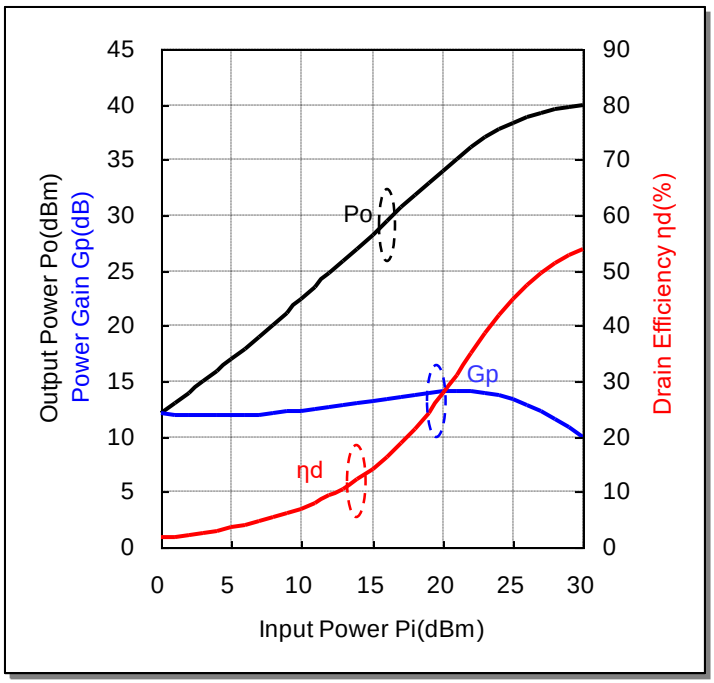


@ f=520MHz, Vds=7.2V

Input-Output Characteristics Vds＝7.2V, Ibias=100mA - Condition 2

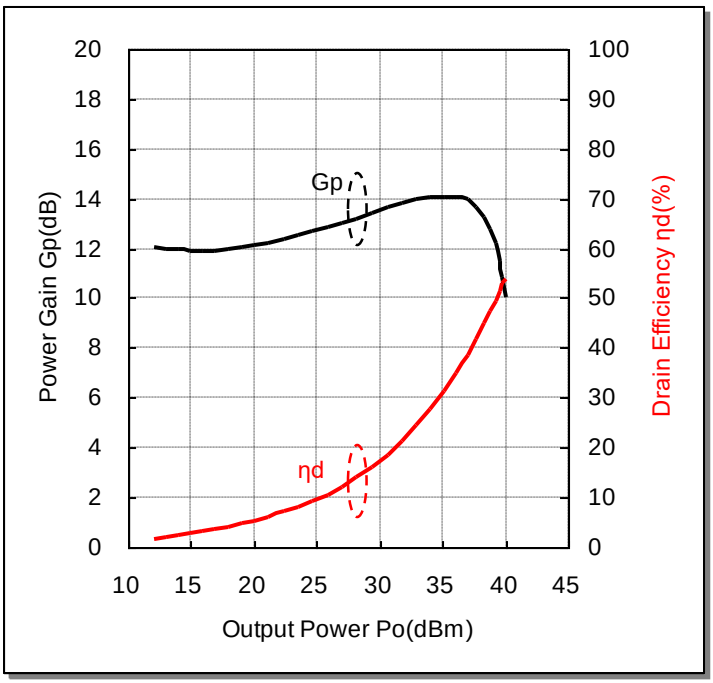
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds7.2V, Ibias=100.9mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=7.2V, Ibias=100.9mA

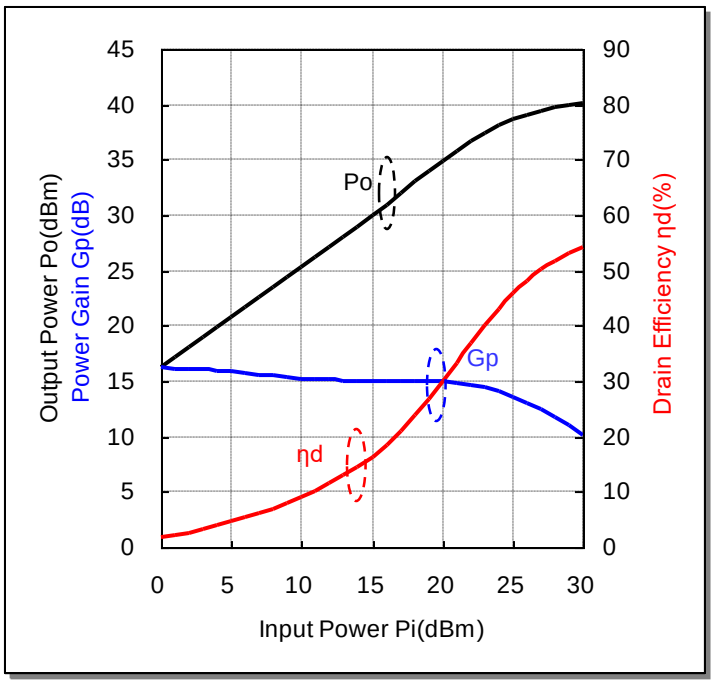
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.52	7.2	100.9	520	0.0	1.0	12.0	0.016	12.0	133	1.7
1.52	7.2	100.9	520	1.0	1.3	13.0	0.020	12.0	140	2.0
1.52	7.2	100.9	520	2.0	1.6	13.9	0.025	11.9	149	2.3
1.52	7.2	100.9	520	3.0	2.0	14.9	0.031	11.9	161	2.7
1.52	7.2	100.9	520	4.0	2.5	15.9	0.039	11.9	176	3.1
1.52	7.2	100.9	520	5.0	3.2	16.9	0.049	11.9	193	3.5
1.52	7.2	100.9	520	6.0	4.0	18.0	0.062	12.0	214	4.1
1.52	7.2	100.9	520	7.0	5.0	19.0	0.080	12.0	237	4.7
1.52	7.2	100.9	520	8.0	6.3	20.1	0.102	12.1	265	5.4
1.52	7.2	100.9	520	9.0	7.9	21.2	0.132	12.2	298	6.1
1.52	7.2	100.9	520	10.0	10.0	22.3	0.171	12.3	338	7.0
1.52	7.2	100.9	520	11.0	12.6	23.5	0.224	12.5	384	8.1
1.52	7.2	100.9	520	12.0	15.8	24.7	0.293	12.7	438	9.3
1.52	7.2	100.9	520	13.0	20.0	25.8	0.383	12.8	500	10.6
1.52	7.2	100.9	520	14.0	25.1	27.0	0.499	13.0	569	12.2
1.52	7.2	100.9	520	15.0	31.6	28.2	0.662	13.2	654	14.1
1.52	7.2	100.9	520	16.0	39.8	29.4	0.869	13.4	748	16.1
1.52	7.2	100.9	520	17.0	50.1	30.6	1.159	13.6	862	18.7
1.52	7.2	100.9	520	18.0	63.1	31.8	1.510	13.8	982	21.3
1.52	7.2	100.9	520	19.0	79.4	32.9	1.968	13.9	1121	24.4
1.52	7.2	100.9	520	20.0	100.0	34.0	2.535	14.0	1272	27.7
1.52	7.2	100.9	520	21.0	125.9	35.1	3.214	14.1	1432	31.2
1.52	7.2	100.9	520	22.0	158.5	36.1	4.046	14.1	1606	35.0
1.52	7.2	100.9	520	23.0	199.5	37.0	4.977	14.0	1788	38.7
1.52	7.2	100.9	520	24.0	251.2	37.7	5.875	13.7	1945	41.9
1.52	7.2	100.9	520	25.0	316.2	38.3	6.745	13.3	2088	44.9
1.52	7.2	100.9	520	26.0	398.1	38.8	7.568	12.8	2218	47.4
1.52	7.2	100.9	520	27.0	501.2	39.2	8.318	12.2	2330	49.6
1.52	7.2	100.9	520	28.0	631.0	39.5	8.954	11.5	2427	51.2
1.52	7.2	100.9	520	29.0	794.3	39.8	9.572	10.8	2516	52.8
1.52	7.2	100.9	520	30.0	1000.0	40.0	10.069	10.0	2591	54.0

Input-Output Characteristics Vds＝7.2V, Ibias=300mA - Condition 2

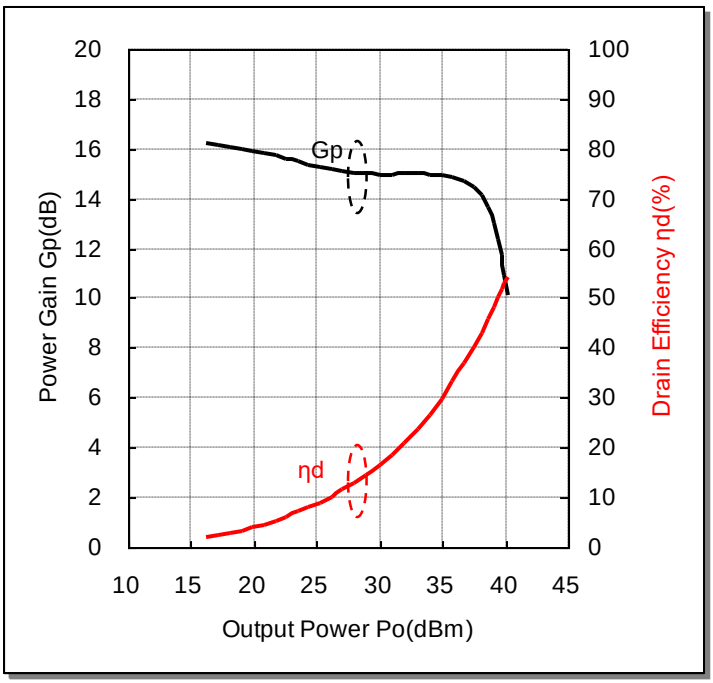
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds7.2V, Ibias=301.2mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=7.2V, Ibias=301.2mA

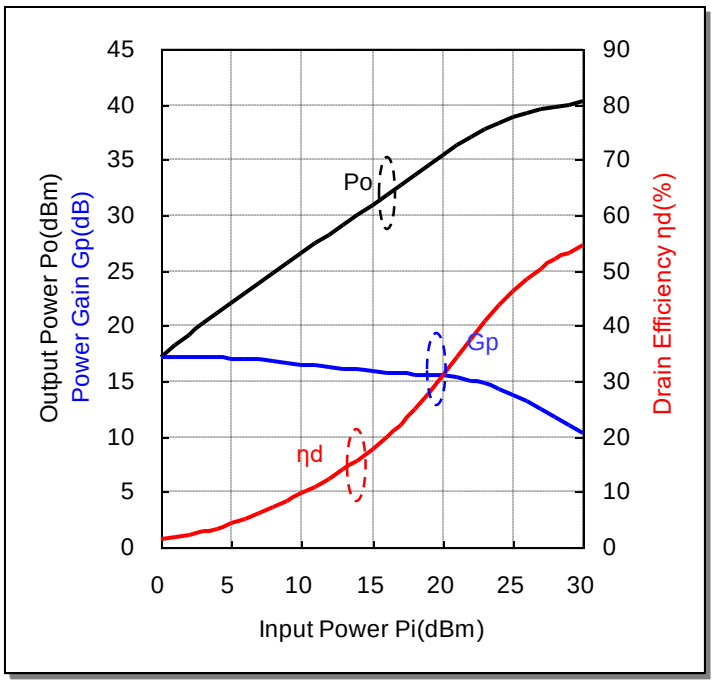
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.70	7.2	301.2	520	0.0	1.0	16.2	0.042	16.2	320	1.8
1.70	7.2	301.2	520	1.0	1.3	17.1	0.052	16.1	324	2.2
1.70	7.2	301.2	520	2.0	1.6	18.1	0.064	16.1	332	2.7
1.70	7.2	301.2	520	3.0	2.0	19.0	0.080	16.0	341	3.2
1.70	7.2	301.2	520	4.0	2.5	19.9	0.099	15.9	353	3.9
1.70	7.2	301.2	520	5.0	3.2	20.8	0.121	15.8	367	4.6
1.70	7.2	301.2	520	6.0	4.0	21.7	0.149	15.7	386	5.4
1.70	7.2	301.2	520	7.0	5.0	22.6	0.182	15.6	410	6.2
1.70	7.2	301.2	520	8.0	6.3	23.5	0.223	15.5	441	7.0
1.70	7.2	301.2	520	9.0	7.9	24.4	0.274	15.4	476	8.0
1.70	7.2	301.2	520	10.0	10.0	25.3	0.337	15.3	518	9.0
1.70	7.2	301.2	520	11.0	12.6	26.2	0.415	15.2	565	10.2
1.70	7.2	301.2	520	12.0	15.8	27.1	0.513	15.1	619	11.5
1.70	7.2	301.2	520	13.0	20.0	28.0	0.638	15.0	684	13.0
1.70	7.2	301.2	520	14.0	25.1	29.0	0.791	15.0	757	14.5
1.70	7.2	301.2	520	15.0	31.6	30.0	0.993	15.0	840	16.4
1.70	7.2	301.2	520	16.0	39.8	31.0	1.250	15.0	936	18.5
1.70	7.2	301.2	520	17.0	50.1	32.0	1.581	15.0	1046	21.0
1.70	7.2	301.2	520	18.0	63.1	33.0	1.995	15.0	1169	23.7
1.70	7.2	301.2	520	19.0	79.4	34.0	2.495	15.0	1302	26.6
1.70	7.2	301.2	520	20.0	100.0	35.0	3.133	15.0	1456	29.9
1.70	7.2	301.2	520	21.0	125.9	35.8	3.837	14.8	1607	33.2
1.70	7.2	301.2	520	22.0	158.5	36.7	4.688	14.7	1771	36.8
1.70	7.2	301.2	520	23.0	199.5	37.5	5.585	14.5	1933	40.1
1.70	7.2	301.2	520	24.0	251.2	38.1	6.457	14.1	2078	43.1
1.70	7.2	301.2	520	25.0	316.2	38.6	7.278	13.6	2204	45.9
1.70	7.2	301.2	520	26.0	398.1	39.0	8.035	13.0	2317	48.2
1.70	7.2	301.2	520	27.0	501.2	39.4	8.710	12.4	2414	50.1
1.70	7.2	301.2	520	28.0	631.0	39.7	9.333	11.7	2504	51.8
1.70	7.2	301.2	520	29.0	794.3	40.0	9.886	11.0	2581	53.2
1.70	7.2	301.2	520	30.0	1000.0	40.2	10.351	10.2	2648	54.3

Input-Output Characteristics Vds＝7.2V, Ibias=500mA - Condition 2

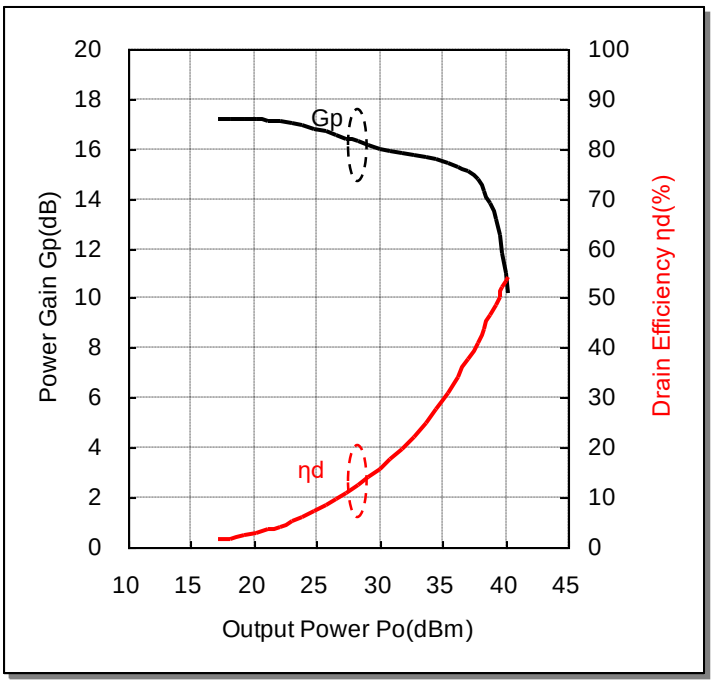
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds7.2V, Ibias=491.5mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=7.2V, Ibias=491.5mA

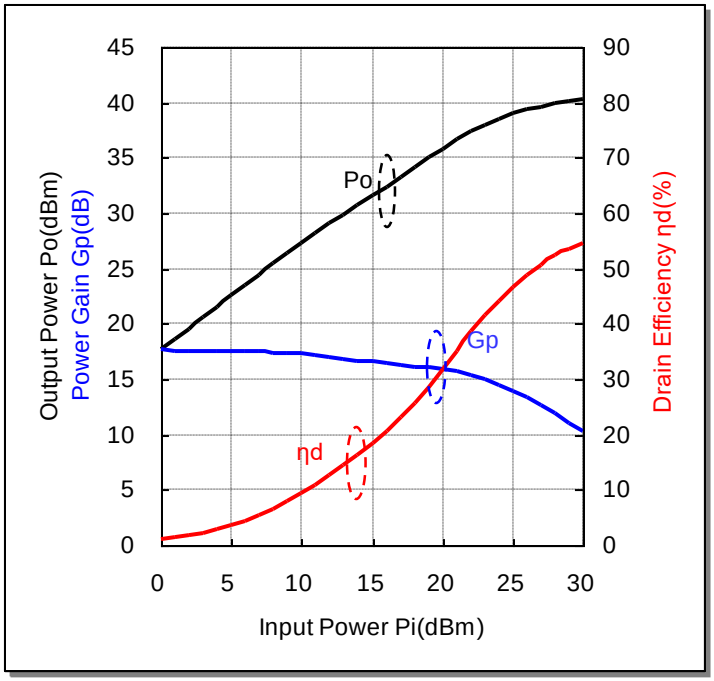
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.83	7.2	491.5	520	0.0	1.0	17.2	0.053	17.2	504	1.4
1.83	7.2	491.5	520	1.0	1.3	18.2	0.066	17.2	508	1.8
1.83	7.2	491.5	520	2.0	1.6	19.2	0.083	17.2	512	2.2
1.83	7.2	491.5	520	3.0	2.0	20.2	0.104	17.2	518	2.8
1.83	7.2	491.5	520	4.0	2.5	21.1	0.129	17.1	524	3.4
1.83	7.2	491.5	520	5.0	3.2	22.1	0.161	17.1	533	4.2
1.83	7.2	491.5	520	6.0	4.0	23.0	0.200	17.0	544	5.1
1.83	7.2	491.5	520	7.0	5.0	23.9	0.246	16.9	562	6.1
1.83	7.2	491.5	520	8.0	6.3	24.8	0.302	16.8	583	7.2
1.83	7.2	491.5	520	9.0	7.9	25.7	0.371	16.7	611	8.4
1.83	7.2	491.5	520	10.0	10.0	26.5	0.450	16.5	650	9.6
1.83	7.2	491.5	520	11.0	12.6	27.4	0.548	16.4	697	10.9
1.83	7.2	491.5	520	12.0	15.8	28.3	0.671	16.3	751	12.4
1.83	7.2	491.5	520	13.0	20.0	29.1	0.817	16.1	814	13.9
1.83	7.2	491.5	520	14.0	25.1	30.0	1.002	16.0	887	15.7
1.83	7.2	491.5	520	15.0	31.6	30.9	1.227	15.9	969	17.6
1.83	7.2	491.5	520	16.0	39.8	31.8	1.514	15.8	1065	19.7
1.83	7.2	491.5	520	17.0	50.1	32.7	1.866	15.7	1171	22.1
1.83	7.2	491.5	520	18.0	63.1	33.6	2.307	15.6	1292	24.8
1.83	7.2	491.5	520	19.0	79.4	34.6	2.858	15.6	1427	27.8
1.83	7.2	491.5	520	20.0	100.0	35.5	3.516	15.5	1574	31.0
1.83	7.2	491.5	520	21.0	125.9	36.3	4.256	15.3	1724	34.3
1.83	7.2	491.5	520	22.0	158.5	37.1	5.117	15.1	1883	37.7
1.83	7.2	491.5	520	23.0	199.5	37.8	5.984	14.8	2031	40.9
1.83	7.2	491.5	520	24.0	251.2	38.3	6.808	14.3	2162	43.7
1.83	7.2	491.5	520	25.0	316.2	38.8	7.621	13.8	2281	46.4
1.83	7.2	491.5	520	26.0	398.1	39.2	8.318	13.2	2383	48.5
1.83	7.2	491.5	520	27.0	501.2	39.5	8.974	12.5	2475	50.4
1.83	7.2	491.5	520	28.0	631.0	39.8	9.572	11.8	2554	52.1
1.83	7.2	491.5	520	29.0	794.3	40.0	10.069	11.0	2624	53.3
1.83	7.2	491.5	520	30.0	1000.0	40.2	10.520	10.2	2685	54.4

Input-Output Characteristics Vds＝7.2V, Ibias=700mA - Condition 2

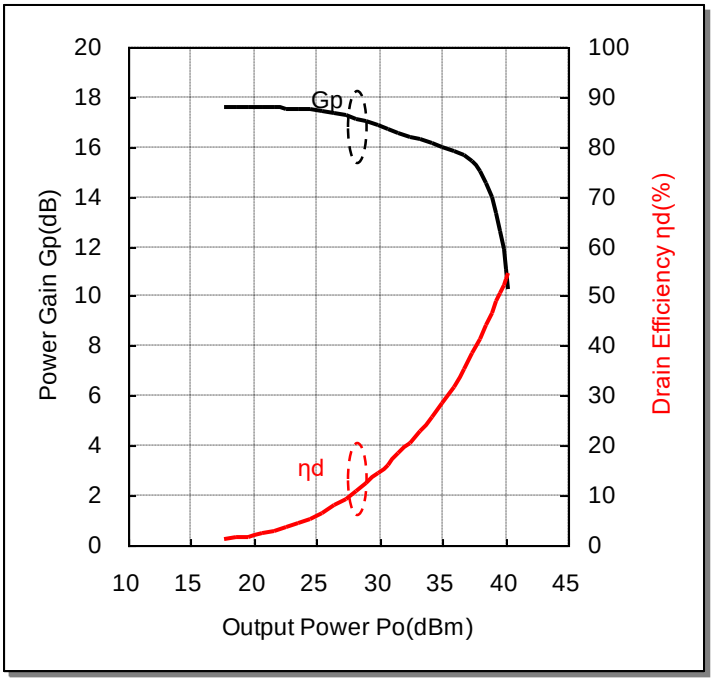
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds7.2V, Ibias=693.1mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=7.2V, Ibias=693.1mA

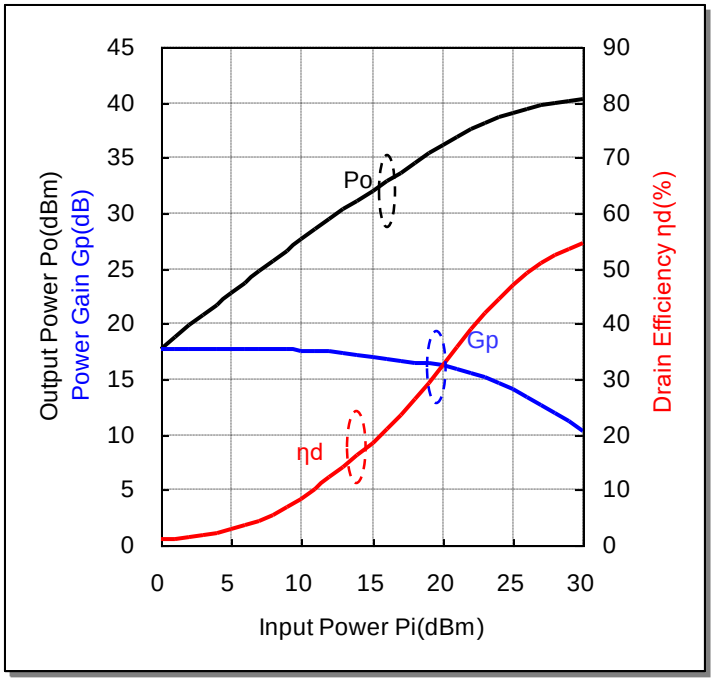
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.95	7.2	693.1	520	0.0	1.0	17.6	0.058	17.6	699	1.2
1.95	7.2	693.1	520	1.0	1.3	18.6	0.072	17.6	702	1.4
1.95	7.2	693.1	520	2.0	1.6	19.6	0.091	17.6	703	1.8
1.95	7.2	693.1	520	3.0	2.0	20.6	0.115	17.6	706	2.3
1.95	7.2	693.1	520	4.0	2.5	21.6	0.144	17.6	713	2.8
1.95	7.2	693.1	520	5.0	3.2	22.5	0.179	17.5	719	3.5
1.95	7.2	693.1	520	6.0	4.0	23.5	0.225	17.5	725	4.3
1.95	7.2	693.1	520	7.0	5.0	24.5	0.281	17.5	734	5.3
1.95	7.2	693.1	520	8.0	6.3	25.4	0.349	17.4	748	6.5
1.95	7.2	693.1	520	9.0	7.9	26.4	0.433	17.4	766	7.8
1.95	7.2	693.1	520	10.0	10.0	27.3	0.533	17.3	791	9.4
1.95	7.2	693.1	520	11.0	12.6	28.1	0.652	17.1	827	10.9
1.95	7.2	693.1	520	12.0	15.8	29.0	0.796	17.0	875	12.6
1.95	7.2	693.1	520	13.0	20.0	29.9	0.968	16.9	935	14.4
1.95	7.2	693.1	520	14.0	25.1	30.7	1.175	16.7	1003	16.3
1.95	7.2	693.1	520	15.0	31.6	31.5	1.429	16.5	1086	18.3
1.95	7.2	693.1	520	16.0	39.8	32.4	1.746	16.4	1181	20.5
1.95	7.2	693.1	520	17.0	50.1	33.3	2.123	16.3	1285	23.0
1.95	7.2	693.1	520	18.0	63.1	34.2	2.600	16.2	1406	25.7
1.95	7.2	693.1	520	19.0	79.4	35.0	3.170	16.0	1537	28.6
1.95	7.2	693.1	520	20.0	100.0	35.9	3.855	15.9	1680	31.9
1.95	7.2	693.1	520	21.0	125.9	36.7	4.634	15.7	1831	35.1
1.95	7.2	693.1	520	22.0	158.5	37.4	5.495	15.4	1982	38.5
1.95	7.2	693.1	520	23.0	199.5	38.0	6.324	15.0	2117	41.5
1.95	7.2	693.1	520	24.0	251.2	38.5	7.129	14.5	2238	44.2
1.95	7.2	693.1	520	25.0	316.2	39.0	7.889	14.0	2347	46.7
1.95	7.2	693.1	520	26.0	398.1	39.3	8.570	13.3	2439	48.8
1.95	7.2	693.1	520	27.0	501.2	39.6	9.204	12.6	2525	50.6
1.95	7.2	693.1	520	28.0	631.0	39.9	9.772	11.9	2598	52.2
1.95	7.2	693.1	520	29.0	794.3	40.1	10.257	11.1	2662	53.5
1.95	7.2	693.1	520	30.0	1000.0	40.3	10.715	10.3	2722	54.7

Input-Output Characteristics Vds＝7.2V, Ibias=900mA - Condition 2

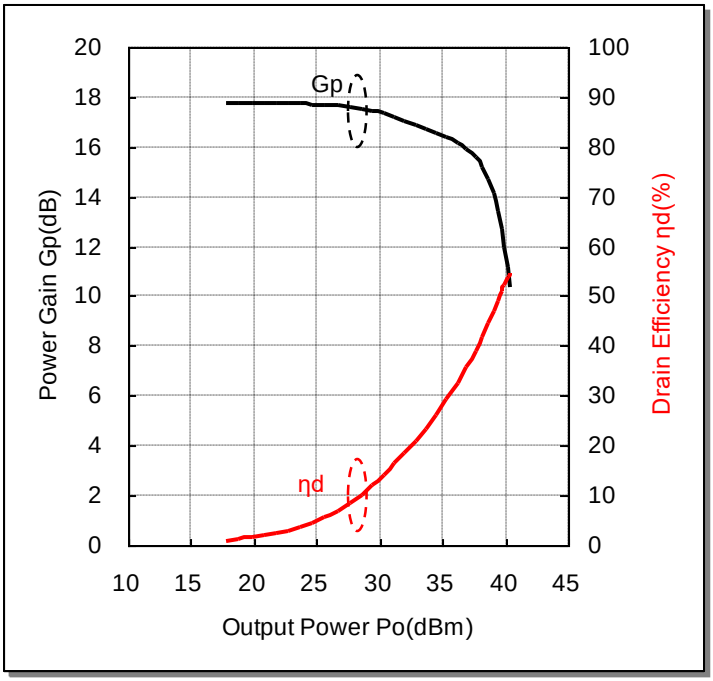
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds7.2V, Ibias=886.1mA

Power Gain, Drain Efficiency vs Output Power



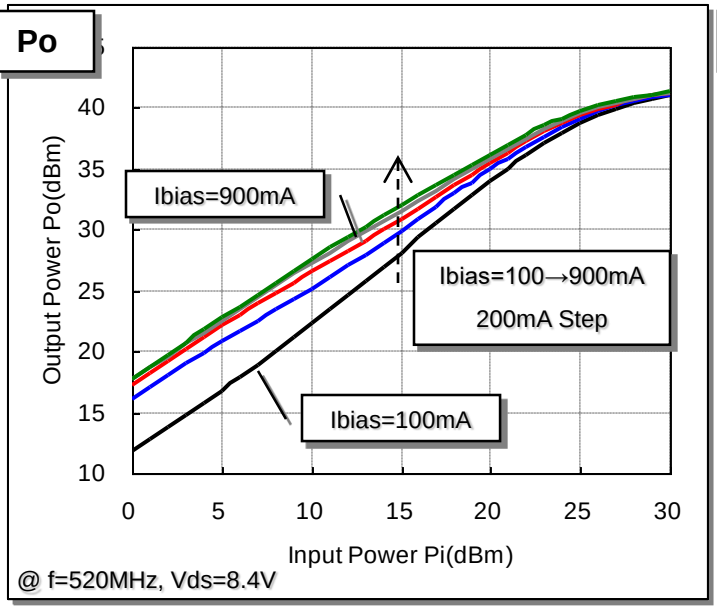
@ f=520MHz, Vds=7.2V, Ibias=886.1mA

Data

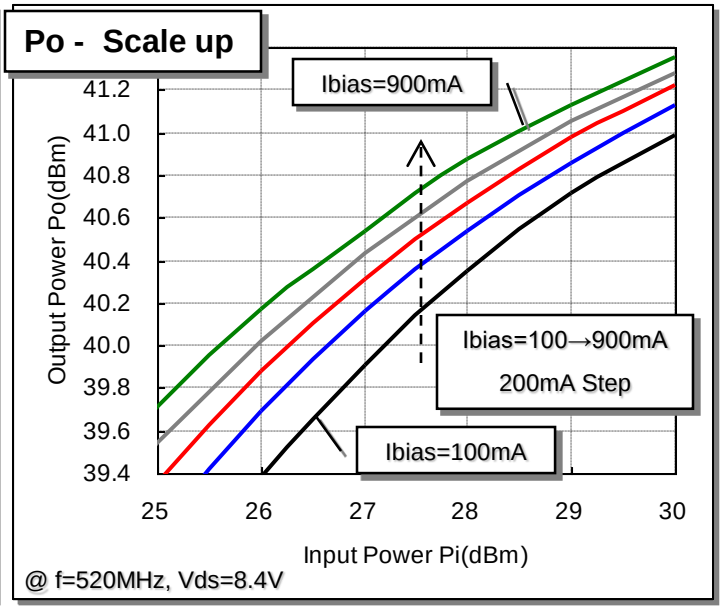
Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.06	7.2	886.1	520	0.0	1.0	17.8	0.060	17.8	890	0.9
2.06	7.2	886.1	520	1.0	1.3	18.8	0.076	17.8	891	1.2
2.06	7.2	886.1	520	2.0	1.6	19.8	0.095	17.8	893	1.5
2.06	7.2	886.1	520	3.0	2.0	20.8	0.119	17.8	894	1.9
2.06	7.2	886.1	520	4.0	2.5	21.8	0.150	17.8	897	2.3
2.06	7.2	886.1	520	5.0	3.2	22.7	0.187	17.7	900	2.9
2.06	7.2	886.1	520	6.0	4.0	23.7	0.236	17.7	905	3.6
2.06	7.2	886.1	520	7.0	5.0	24.7	0.295	17.7	911	4.5
2.06	7.2	886.1	520	8.0	6.3	25.7	0.369	17.7	922	5.6
2.06	7.2	886.1	520	9.0	7.9	26.6	0.461	17.6	931	6.9
2.06	7.2	886.1	520	10.0	10.0	27.6	0.575	17.6	948	8.4
2.06	7.2	886.1	520	11.0	12.6	28.5	0.716	17.5	972	10.2
2.06	7.2	886.1	520	12.0	15.8	29.5	0.883	17.5	1005	12.2
2.06	7.2	886.1	520	13.0	20.0	30.3	1.076	17.3	1051	14.2
2.06	7.2	886.1	520	14.0	25.1	31.2	1.306	17.2	1113	16.3
2.06	7.2	886.1	520	15.0	31.6	32.0	1.592	17.0	1192	18.6
2.06	7.2	886.1	520	16.0	39.8	32.8	1.928	16.8	1283	20.9
2.06	7.2	886.1	520	17.0	50.1	33.7	2.344	16.7	1387	23.5
2.06	7.2	886.1	520	18.0	63.1	34.5	2.838	16.5	1504	26.2
2.06	7.2	886.1	520	19.0	79.4	35.4	3.443	16.4	1637	29.2
2.06	7.2	886.1	520	20.0	100.0	36.2	4.150	16.2	1776	32.4
2.06	7.2	886.1	520	21.0	125.9	36.9	4.943	15.9	1921	35.7
2.06	7.2	886.1	520	22.0	158.5	37.6	5.781	15.6	2063	38.9
2.06	7.2	886.1	520	23.0	199.5	38.2	6.592	15.2	2188	41.8
2.06	7.2	886.1	520	24.0	251.2	38.7	7.396	14.7	2304	44.6
2.06	7.2	886.1	520	25.0	316.2	39.1	8.128	14.1	2402	47.0
2.06	7.2	886.1	520	26.0	398.1	39.5	8.810	13.5	2492	49.1
2.06	7.2	886.1	520	27.0	501.2	39.7	9.397	12.7	2569	50.8
2.06	7.2	886.1	520	28.0	631.0	40.0	9.931	12.0	2636	52.3
2.06	7.2	886.1	520	29.0	794.3	40.2	10.423	11.2	2698	53.7
2.06	7.2	886.1	520	30.0	1000.0	40.3	10.839	10.3	2752	54.7

Input - Output Characteristics Vds＝8.4V - Condition 2

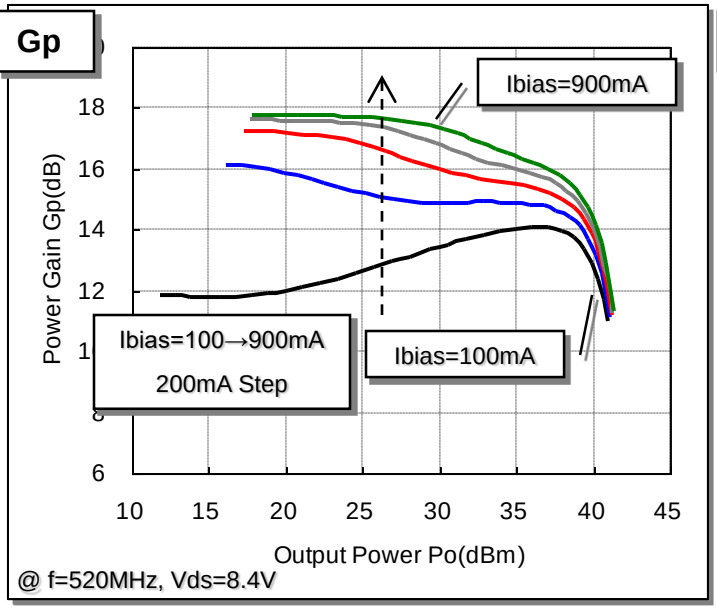
Po



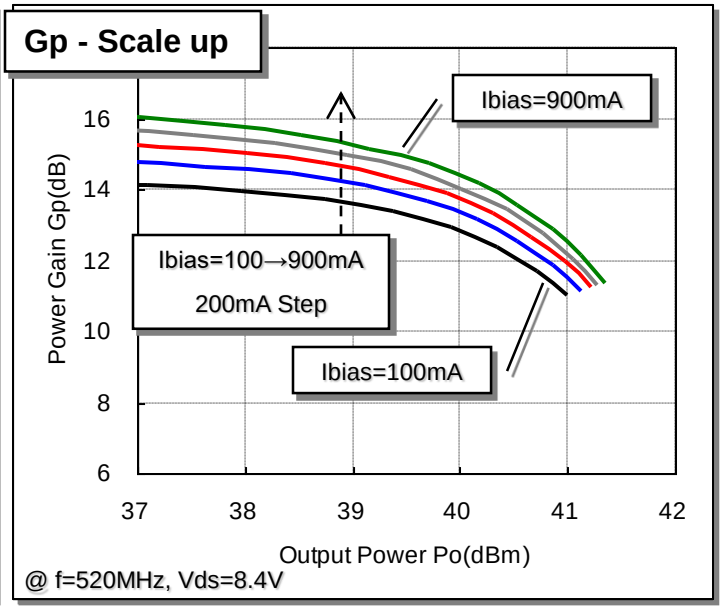
Po - Scale up



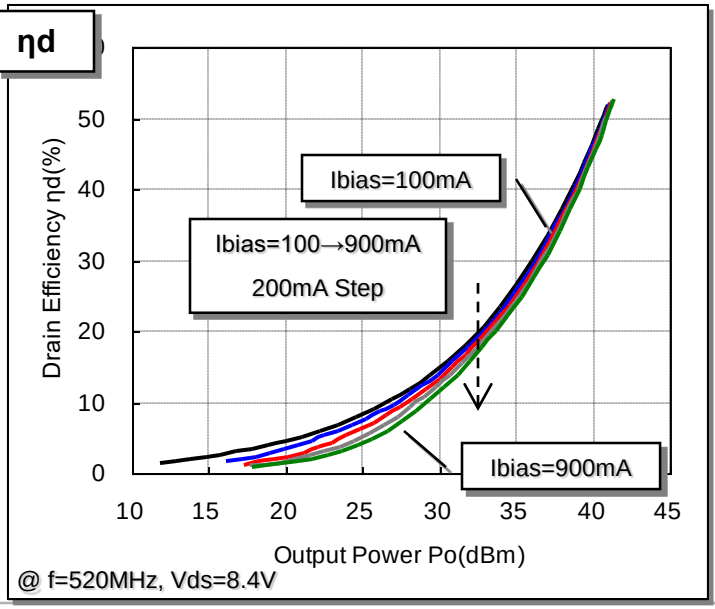
Gp



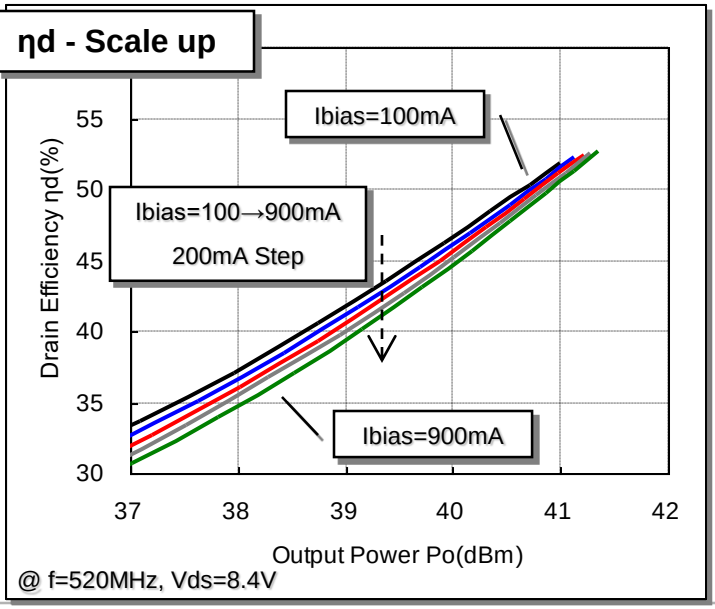
Gp - Scale up



ηd



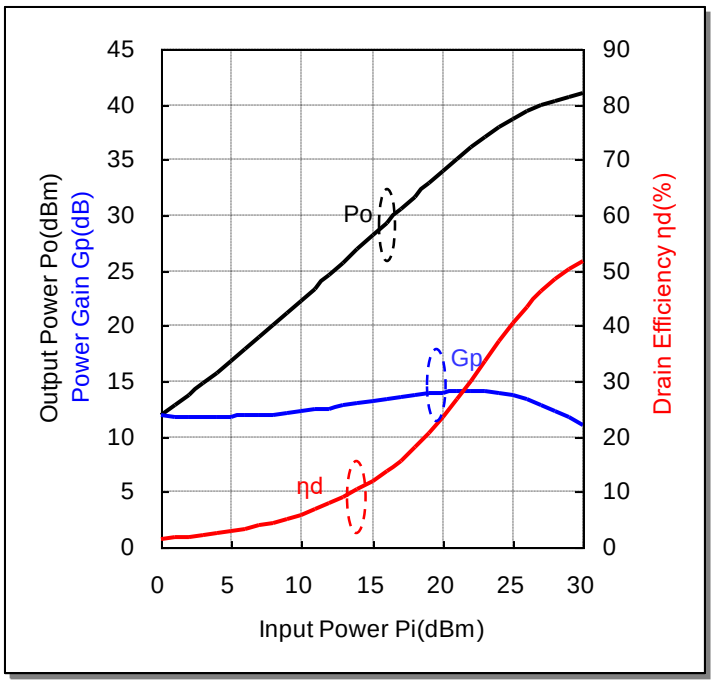
ηd - Scale up



Input-Output Characteristics Vds=8.4V, Ibias=100mA - Condition 2

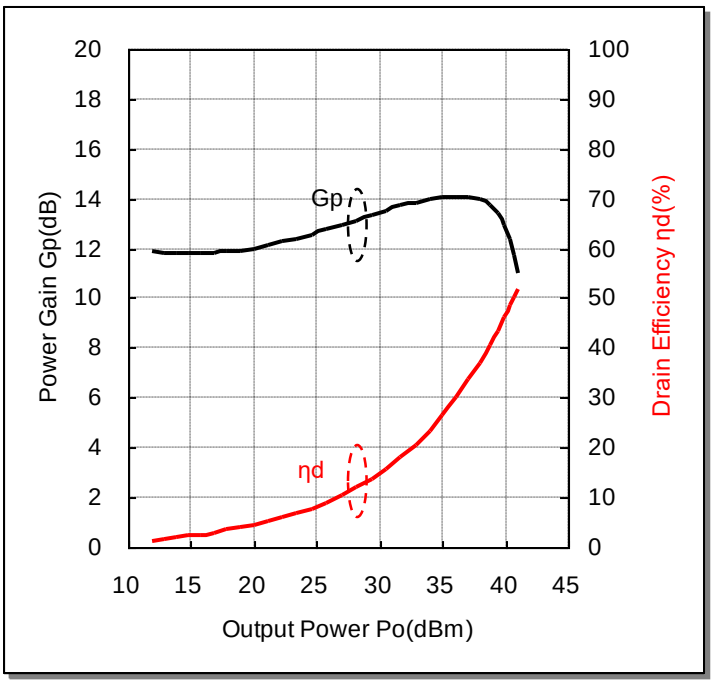
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=98.3mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=8.4V, Ibias=98.3mA

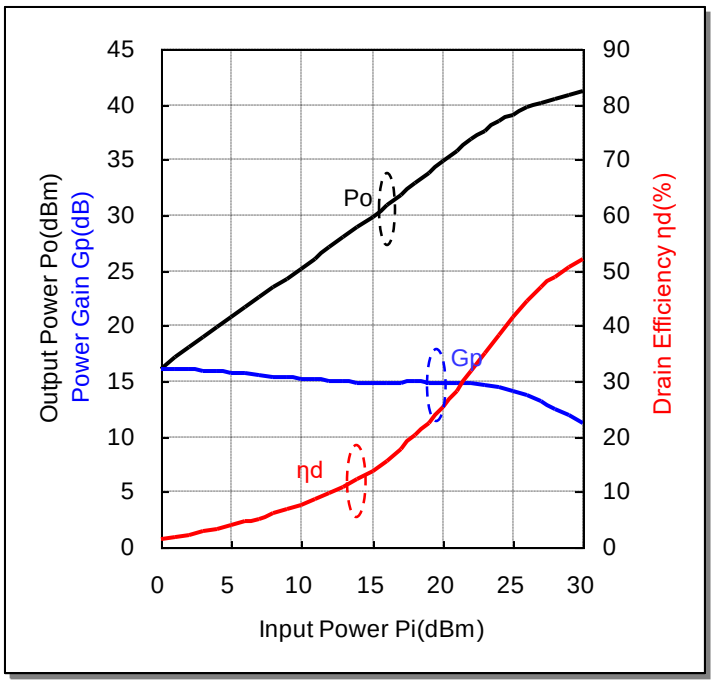
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.49	8.4	98.3	520	0.0	1.0	11.9	0.015	11.9	130	1.4
1.49	8.4	98.3	520	1.0	1.3	12.8	0.019	11.8	138	1.7
1.49	8.4	98.3	520	2.0	1.6	13.8	0.024	11.8	148	1.9
1.49	8.4	98.3	520	3.0	2.0	14.8	0.030	11.8	160	2.2
1.49	8.4	98.3	520	4.0	2.5	15.8	0.038	11.8	174	2.6
1.49	8.4	98.3	520	5.0	3.2	16.8	0.048	11.8	191	3.0
1.49	8.4	98.3	520	6.0	4.0	17.9	0.061	11.9	212	3.4
1.49	8.4	98.3	520	7.0	5.0	18.9	0.078	11.9	235	3.9
1.49	8.4	98.3	520	8.0	6.3	20.0	0.100	12.0	264	4.5
1.49	8.4	98.3	520	9.0	7.9	21.1	0.129	12.1	298	5.2
1.49	8.4	98.3	520	10.0	10.0	22.3	0.168	12.3	336	5.9
1.49	8.4	98.3	520	11.0	12.6	23.4	0.219	12.4	382	6.8
1.49	8.4	98.3	520	12.0	15.8	24.6	0.286	12.6	435	7.8
1.49	8.4	98.3	520	13.0	20.0	25.8	0.376	12.8	498	9.0
1.49	8.4	98.3	520	14.0	25.1	27.0	0.495	13.0	571	10.3
1.49	8.4	98.3	520	15.0	31.6	28.1	0.647	13.1	650	11.9
1.49	8.4	98.3	520	16.0	39.8	29.4	0.861	13.4	749	13.7
1.49	8.4	98.3	520	17.0	50.1	30.5	1.122	13.5	852	15.7
1.49	8.4	98.3	520	18.0	63.1	31.7	1.483	13.7	977	18.1
1.49	8.4	98.3	520	19.0	79.4	32.8	1.928	13.8	1115	20.6
1.49	8.4	98.3	520	20.0	100.0	34.0	2.489	14.0	1264	23.4
1.49	8.4	98.3	520	21.0	125.9	35.0	3.192	14.0	1430	26.6
1.49	8.4	98.3	520	22.0	158.5	36.1	4.055	14.1	1611	30.0
1.49	8.4	98.3	520	23.0	199.5	37.1	5.117	14.1	1812	33.6
1.49	8.4	98.3	520	24.0	251.2	38.0	6.252	14.0	2006	37.1
1.49	8.4	98.3	520	25.0	316.2	38.7	7.482	13.7	2198	40.5
1.49	8.4	98.3	520	26.0	398.1	39.4	8.670	13.4	2371	43.5
1.49	8.4	98.3	520	27.0	501.2	39.9	9.795	12.9	2525	46.2
1.49	8.4	98.3	520	28.0	631.0	40.3	10.839	12.3	2664	48.4
1.49	8.4	98.3	520	29.0	794.3	40.7	11.776	11.7	2785	50.3
1.49	8.4	98.3	520	30.0	1000.0	41.0	12.560	11.0	2887	51.8

Input-Output Characteristics Vds＝8.4V, Ibias=300mA - Condition 2

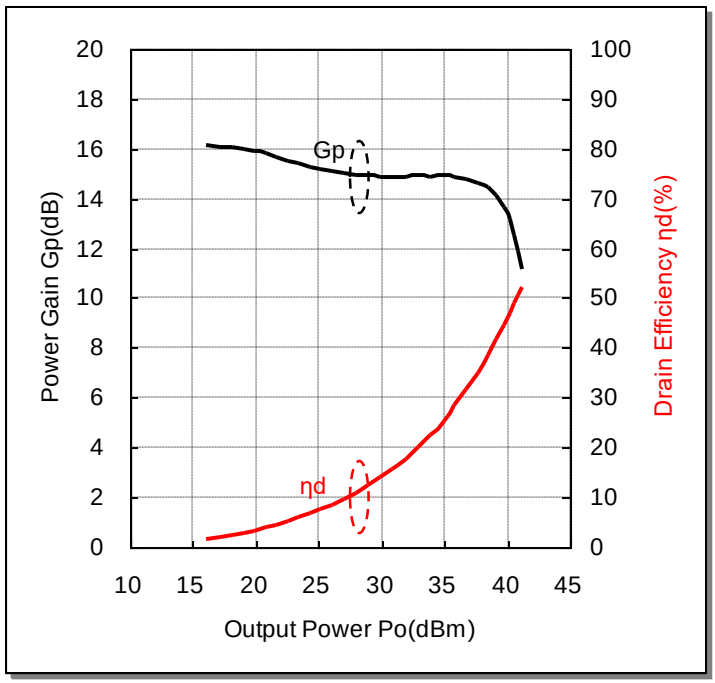
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=294.4mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=8.4V, Ibias=294.4mA

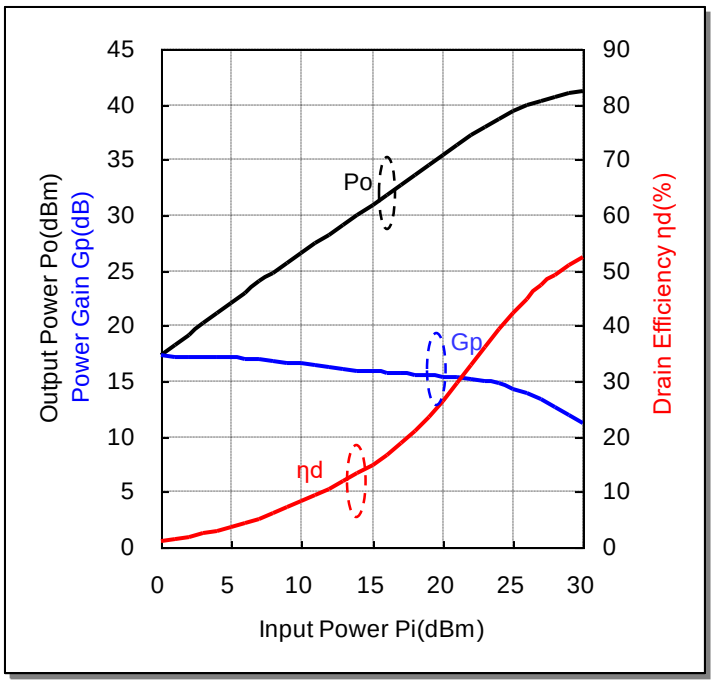
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.66	8.4	294.4	520	0.0	1.0	16.1	0.041	16.1	313	1.6
1.66	8.4	294.4	520	1.0	1.3	17.1	0.051	16.1	321	1.9
1.66	8.4	294.4	520	2.0	1.6	18.0	0.064	16.0	328	2.3
1.66	8.4	294.4	520	3.0	2.0	19.0	0.079	16.0	337	2.8
1.66	8.4	294.4	520	4.0	2.5	19.9	0.097	15.9	349	3.3
1.66	8.4	294.4	520	5.0	3.2	20.8	0.120	15.8	364	3.9
1.66	8.4	294.4	520	6.0	4.0	21.7	0.148	15.7	384	4.6
1.66	8.4	294.4	520	7.0	5.0	22.5	0.179	15.5	409	5.2
1.66	8.4	294.4	520	8.0	6.3	23.4	0.220	15.4	439	6.0
1.66	8.4	294.4	520	9.0	7.9	24.3	0.269	15.3	473	6.8
1.66	8.4	294.4	520	10.0	10.0	25.2	0.330	15.2	515	7.6
1.66	8.4	294.4	520	11.0	12.6	26.1	0.407	15.1	564	8.6
1.66	8.4	294.4	520	12.0	15.8	27.0	0.504	15.0	618	9.7
1.66	8.4	294.4	520	13.0	20.0	28.0	0.624	15.0	680	10.9
1.66	8.4	294.4	520	14.0	25.1	28.9	0.776	14.9	753	12.3
1.66	8.4	294.4	520	15.0	31.6	29.9	0.975	14.9	837	13.9
1.66	8.4	294.4	520	16.0	39.8	30.9	1.225	14.9	930	15.7
1.66	8.4	294.4	520	17.0	50.1	31.9	1.545	14.9	1040	17.7
1.66	8.4	294.4	520	18.0	63.1	32.9	1.963	14.9	1164	20.1
1.66	8.4	294.4	520	19.0	79.4	33.9	2.443	14.9	1294	22.5
1.66	8.4	294.4	520	20.0	100.0	34.9	3.090	14.9	1450	25.4
1.66	8.4	294.4	520	21.0	125.9	35.8	3.828	14.8	1607	28.4
1.66	8.4	294.4	520	22.0	158.5	36.8	4.775	14.8	1790	31.8
1.66	8.4	294.4	520	23.0	199.5	37.6	5.808	14.6	1971	35.1
1.66	8.4	294.4	520	24.0	251.2	38.4	6.982	14.4	2161	38.5
1.66	8.4	294.4	520	25.0	316.2	39.1	8.166	14.1	2334	41.7
1.66	8.4	294.4	520	26.0	398.1	39.7	9.311	13.7	2493	44.5
1.66	8.4	294.4	520	27.0	501.2	40.2	10.375	13.2	2632	46.9
1.66	8.4	294.4	520	28.0	631.0	40.5	11.324	12.5	2755	48.9
1.66	8.4	294.4	520	29.0	794.3	40.9	12.190	11.9	2863	50.7
1.66	8.4	294.4	520	30.0	1000.0	41.1	12.972	11.1	2957	52.2

Input-Output Characteristics Vds＝8.4V, Ibias=500mA - Condition 2

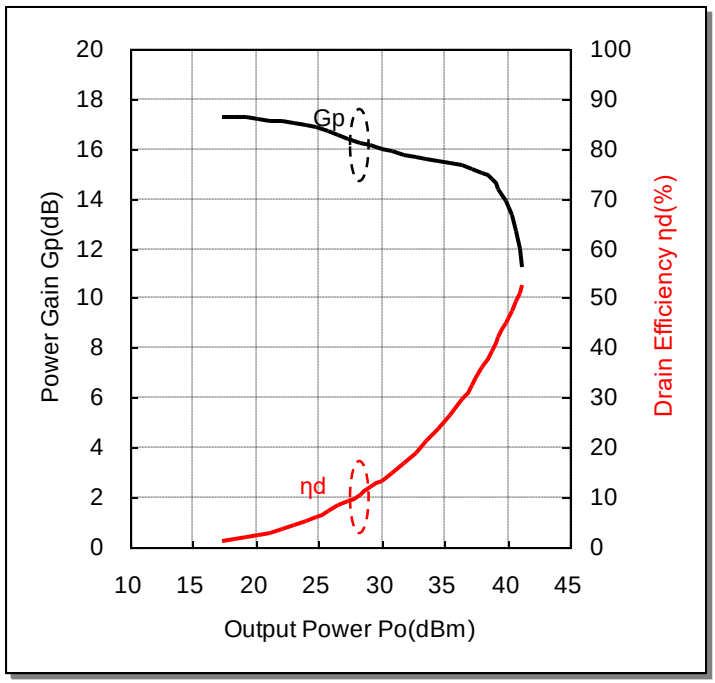
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=497.1mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=8.4V, Ibias=497.1mA

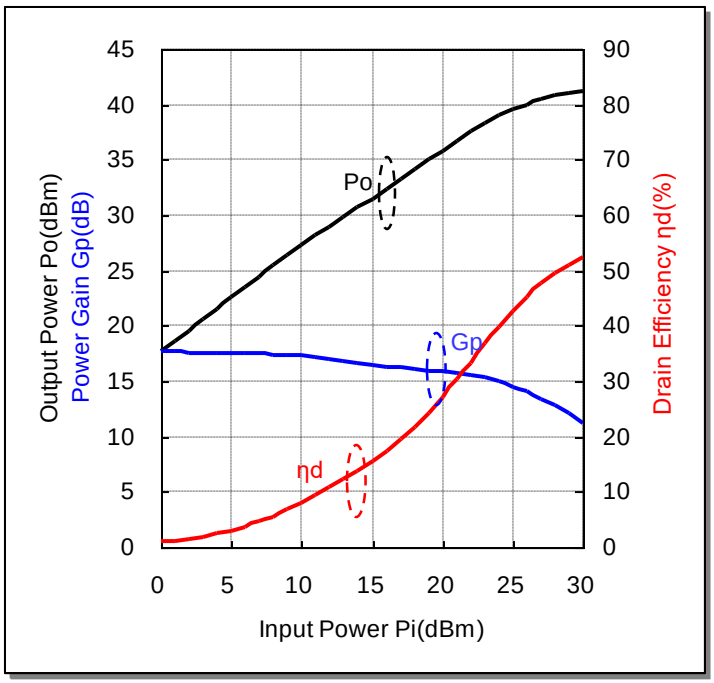
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.80	8.4	497.1	520	0.0	1.0	17.3	0.053	17.3	509	1.2
1.80	8.4	497.1	520	1.0	1.3	18.3	0.067	17.3	513	1.6
1.80	8.4	497.1	520	2.0	1.6	19.2	0.084	17.2	515	1.9
1.80	8.4	497.1	520	3.0	2.0	20.2	0.104	17.2	522	2.4
1.80	8.4	497.1	520	4.0	2.5	21.1	0.130	17.1	530	2.9
1.80	8.4	497.1	520	5.0	3.2	22.1	0.161	17.1	539	3.6
1.80	8.4	497.1	520	6.0	4.0	23.0	0.200	17.0	550	4.3
1.80	8.4	497.1	520	7.0	5.0	24.0	0.248	17.0	565	5.2
1.80	8.4	497.1	520	8.0	6.3	24.8	0.305	16.8	588	6.2
1.80	8.4	497.1	520	9.0	7.9	25.7	0.371	16.7	617	7.2
1.80	8.4	497.1	520	10.0	10.0	26.6	0.453	16.6	654	8.2
1.80	8.4	497.1	520	11.0	12.6	27.4	0.551	16.4	701	9.4
1.80	8.4	497.1	520	12.0	15.8	28.3	0.668	16.3	754	10.6
1.80	8.4	497.1	520	13.0	20.0	29.1	0.817	16.1	817	11.9
1.80	8.4	497.1	520	14.0	25.1	30.0	0.995	16.0	890	13.3
1.80	8.4	497.1	520	15.0	31.6	30.9	1.222	15.9	972	15.0
1.80	8.4	497.1	520	16.0	39.8	31.8	1.503	15.8	1068	16.8
1.80	8.4	497.1	520	17.0	50.1	32.7	1.854	15.7	1173	18.8
1.80	8.4	497.1	520	18.0	63.1	33.6	2.291	15.6	1293	21.1
1.80	8.4	497.1	520	19.0	79.4	34.5	2.838	15.5	1429	23.6
1.80	8.4	497.1	520	20.0	100.0	35.5	3.508	15.5	1579	26.4
1.80	8.4	497.1	520	21.0	125.9	36.4	4.325	15.4	1742	29.6
1.80	8.4	497.1	520	22.0	158.5	37.2	5.248	15.2	1910	32.7
1.80	8.4	497.1	520	23.0	199.5	38.0	6.339	15.0	2092	36.1
1.80	8.4	497.1	520	24.0	251.2	38.7	7.482	14.7	2269	39.3
1.80	8.4	497.1	520	25.0	316.2	39.3	8.610	14.3	2428	42.2
1.80	8.4	497.1	520	26.0	398.1	39.9	9.727	13.9	2576	45.0
1.80	8.4	497.1	520	27.0	501.2	40.3	10.740	13.3	2705	47.3
1.80	8.4	497.1	520	28.0	631.0	40.7	11.668	12.7	2818	49.3
1.80	8.4	497.1	520	29.0	794.3	41.0	12.531	12.0	2920	51.1
1.80	8.4	497.1	520	30.0	1000.0	41.2	13.243	11.2	3007	52.4

Input-Output Characteristics Vds=8.4V, Ibias=700mA - Condition 2

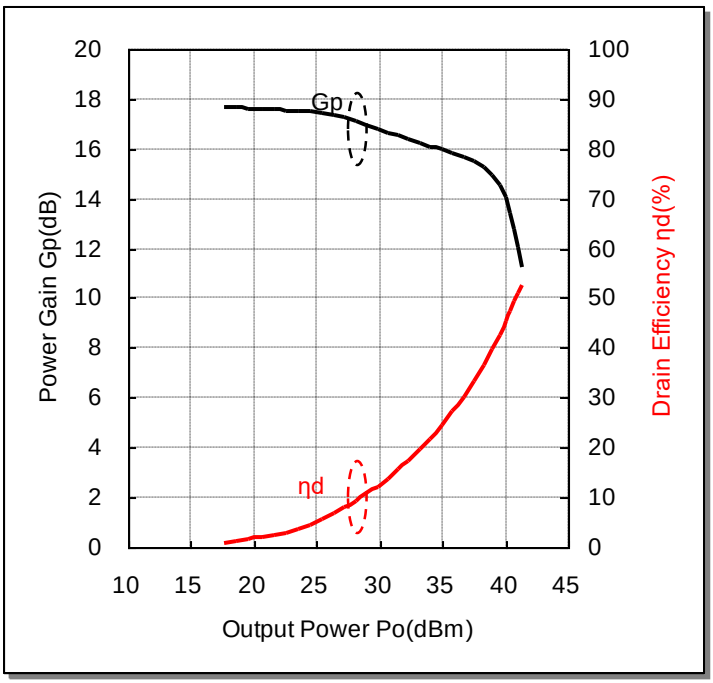
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=689.8mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=8.4V, Ibias=689.8mA

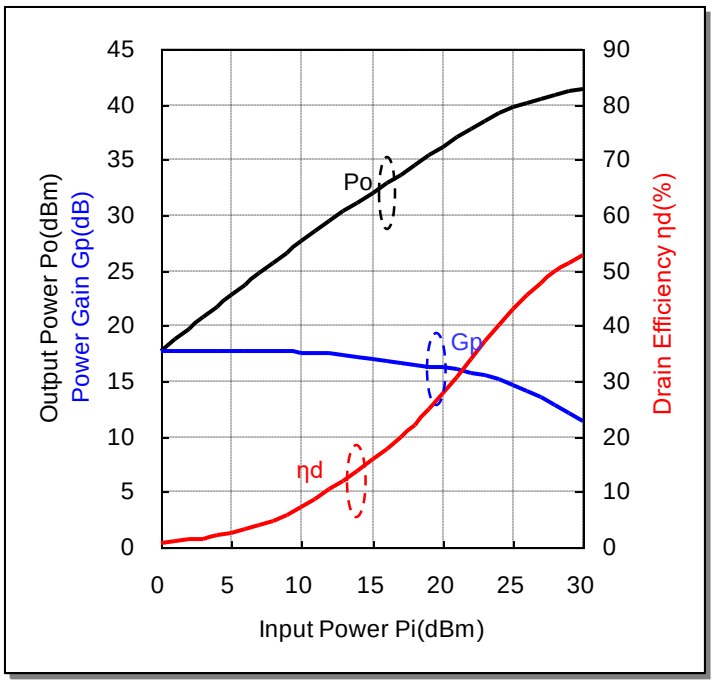
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.91	8.4	689.8	520	0.0	1.0	17.6	0.058	17.6	699	1.0
1.91	8.4	689.8	520	1.0	1.3	18.6	0.073	17.6	701	1.2
1.91	8.4	689.8	520	2.0	1.6	19.6	0.091	17.6	700	1.5
1.91	8.4	689.8	520	3.0	2.0	20.6	0.115	17.6	705	1.9
1.91	8.4	689.8	520	4.0	2.5	21.6	0.144	17.6	710	2.4
1.91	8.4	689.8	520	5.0	3.2	22.5	0.180	17.5	716	3.0
1.91	8.4	689.8	520	6.0	4.0	23.5	0.225	17.5	722	3.7
1.91	8.4	689.8	520	7.0	5.0	24.5	0.281	17.5	733	4.6
1.91	8.4	689.8	520	8.0	6.3	25.4	0.348	17.4	745	5.6
1.91	8.4	689.8	520	9.0	7.9	26.4	0.433	17.4	765	6.7
1.91	8.4	689.8	520	10.0	10.0	27.3	0.532	17.3	790	8.0
1.91	8.4	689.8	520	11.0	12.6	28.1	0.649	17.1	827	9.3
1.91	8.4	689.8	520	12.0	15.8	29.0	0.791	17.0	875	10.8
1.91	8.4	689.8	520	13.0	20.0	29.8	0.959	16.8	935	12.2
1.91	8.4	689.8	520	14.0	25.1	30.6	1.161	16.6	1004	13.8
1.91	8.4	689.8	520	15.0	31.6	31.5	1.416	16.5	1085	15.5
1.91	8.4	689.8	520	16.0	39.8	32.3	1.718	16.3	1178	17.4
1.91	8.4	689.8	520	17.0	50.1	33.2	2.099	16.2	1282	19.5
1.91	8.4	689.8	520	18.0	63.1	34.1	2.570	16.1	1403	21.8
1.91	8.4	689.8	520	19.0	79.4	35.0	3.141	16.0	1536	24.3
1.91	8.4	689.8	520	20.0	100.0	35.8	3.837	15.8	1683	27.1
1.91	8.4	689.8	520	21.0	125.9	36.7	4.677	15.7	1844	30.2
1.91	8.4	689.8	520	22.0	158.5	37.5	5.649	15.5	2015	33.4
1.91	8.4	689.8	520	23.0	199.5	38.3	6.745	15.3	2188	36.7
1.91	8.4	689.8	520	24.0	251.2	39.0	7.870	15.0	2356	39.8
1.91	8.4	689.8	520	25.0	316.2	39.5	8.995	14.5	2508	42.7
1.91	8.4	689.8	520	26.0	398.1	40.0	10.046	14.0	2645	45.2
1.91	8.4	689.8	520	27.0	501.2	40.4	11.041	13.4	2765	47.5
1.91	8.4	689.8	520	28.0	631.0	40.8	11.940	12.8	2871	49.5
1.91	8.4	689.8	520	29.0	794.3	41.0	12.735	12.0	2965	51.1
1.91	8.4	689.8	520	30.0	1000.0	41.3	13.428	11.3	3046	52.5

Input-Output Characteristics Vds＝8.4V, Ibias=900mA - Condition 2

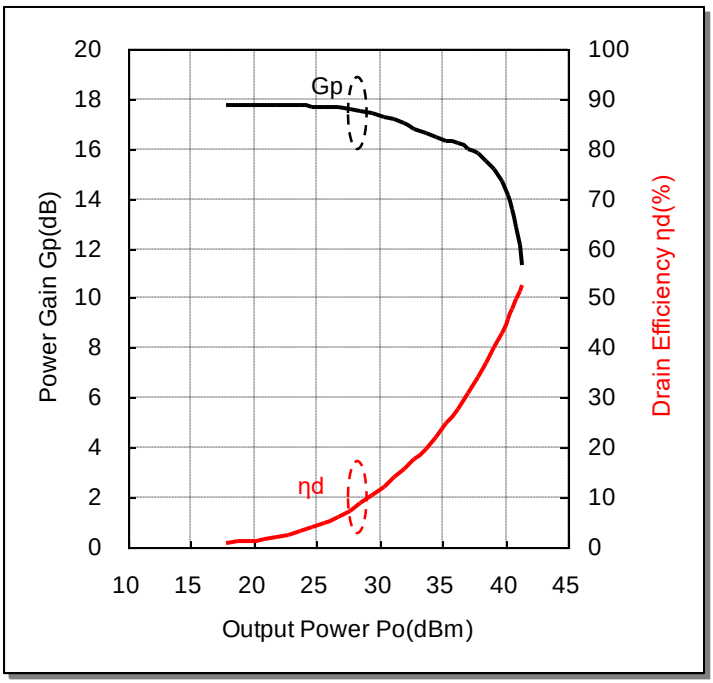
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=8.4V, Ibias=884.0mA

Power Gain, Drain Efficiency vs Output Power



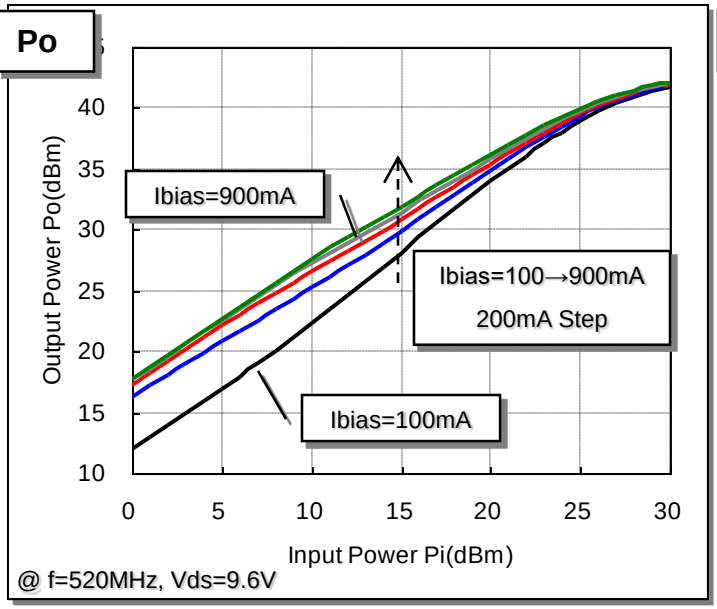
@ f=520MHz, Vds=8.4V, Ibias=884.0mA

Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.02	8.4	884.0	520	0.0	1.0	17.8	0.060	17.8	887	0.8
2.02	8.4	884.0	520	1.0	1.3	18.8	0.075	17.8	887	1.0
2.02	8.4	884.0	520	2.0	1.6	19.8	0.095	17.8	891	1.3
2.02	8.4	884.0	520	3.0	2.0	20.7	0.119	17.7	893	1.6
2.02	8.4	884.0	520	4.0	2.5	21.8	0.150	17.8	895	2.0
2.02	8.4	884.0	520	5.0	3.2	22.7	0.188	17.7	899	2.5
2.02	8.4	884.0	520	6.0	4.0	23.7	0.236	17.7	905	3.1
2.02	8.4	884.0	520	7.0	5.0	24.7	0.294	17.7	911	3.8
2.02	8.4	884.0	520	8.0	6.3	25.7	0.369	17.7	919	4.8
2.02	8.4	884.0	520	9.0	7.9	26.6	0.461	17.6	932	5.9
2.02	8.4	884.0	520	10.0	10.0	27.6	0.574	17.6	948	7.2
2.02	8.4	884.0	520	11.0	12.6	28.5	0.711	17.5	969	8.7
2.02	8.4	884.0	520	12.0	15.8	29.5	0.881	17.5	1005	10.4
2.02	8.4	884.0	520	13.0	20.0	30.3	1.069	17.3	1051	12.1
2.02	8.4	884.0	520	14.0	25.1	31.2	1.306	17.2	1118	13.9
2.02	8.4	884.0	520	15.0	31.6	32.0	1.585	17.0	1195	15.8
2.02	8.4	884.0	520	16.0	39.8	32.8	1.914	16.8	1284	17.8
2.02	8.4	884.0	520	17.0	50.1	33.7	2.317	16.7	1389	19.9
2.02	8.4	884.0	520	18.0	63.1	34.5	2.812	16.5	1506	22.2
2.02	8.4	884.0	520	19.0	79.4	35.3	3.420	16.3	1639	24.8
2.02	8.4	884.0	520	20.0	100.0	36.2	4.169	16.2	1790	27.7
2.02	8.4	884.0	520	21.0	125.9	37.0	5.035	16.0	1948	30.8
2.02	8.4	884.0	520	22.0	158.5	37.8	6.039	15.8	2115	34.0
2.02	8.4	884.0	520	23.0	199.5	38.5	7.112	15.5	2282	37.1
2.02	8.4	884.0	520	24.0	251.2	39.2	8.222	15.2	2439	40.1
2.02	8.4	884.0	520	25.0	316.2	39.7	9.354	14.7	2586	43.1
2.02	8.4	884.0	520	26.0	398.1	40.2	10.399	14.2	2715	45.6
2.02	8.4	884.0	520	27.0	501.2	40.5	11.324	13.5	2825	47.7
2.02	8.4	884.0	520	28.0	631.0	40.9	12.218	12.9	2926	49.7
2.02	8.4	884.0	520	29.0	794.3	41.1	12.972	12.1	3012	51.3
2.02	8.4	884.0	520	30.0	1000.0	41.3	13.646	11.3	3088	52.6

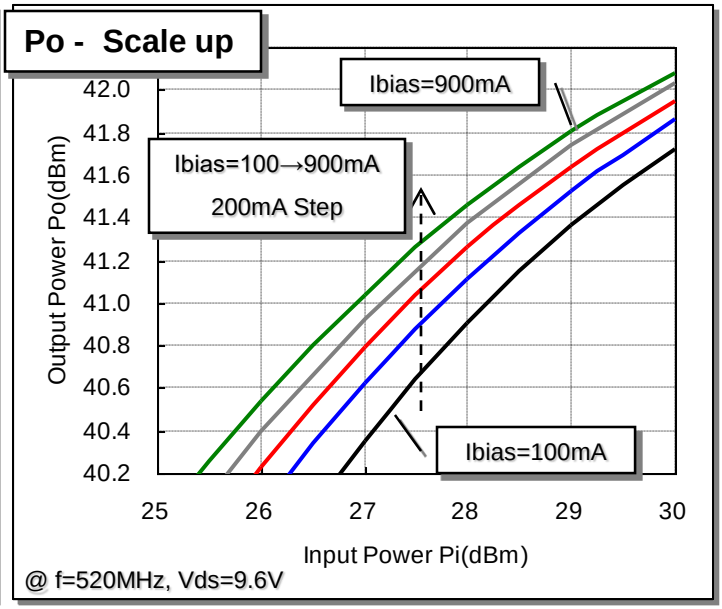
Input - Output Characteristics Vds＝9.6V - Condition 2

Po



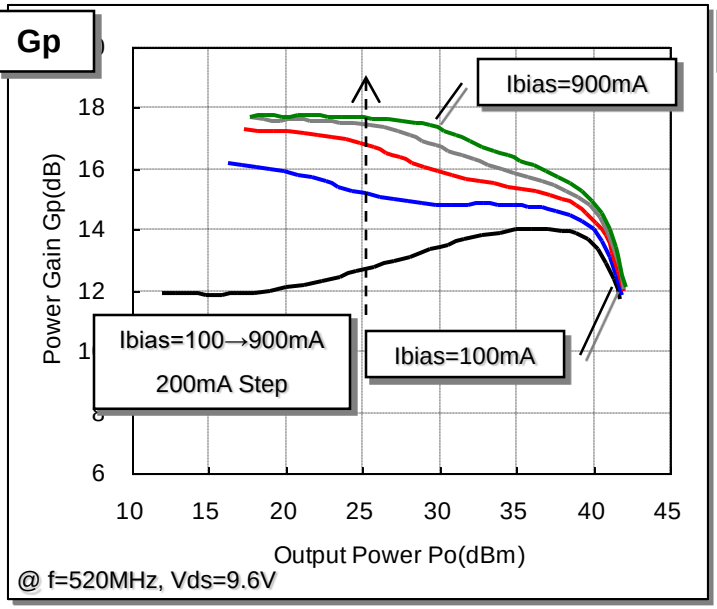
@ f=520MHz, Vds=9.6V

Po - Scale up



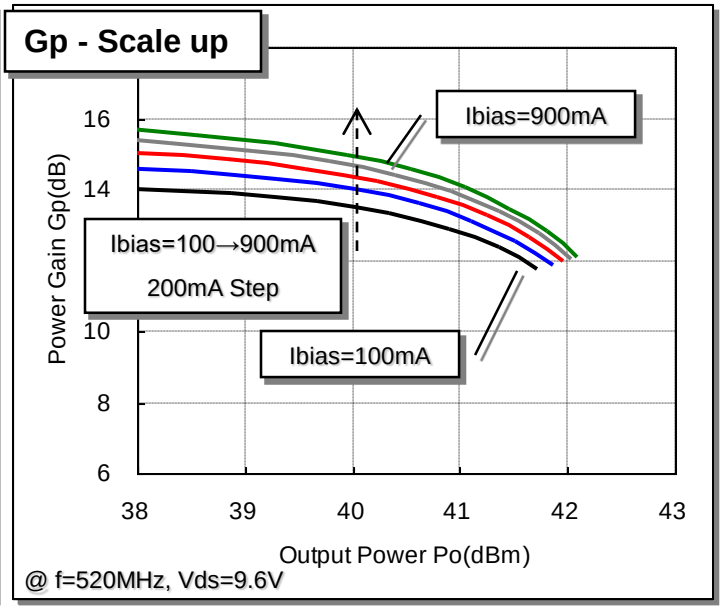
@ f=520MHz, Vds=9.6V

Gp



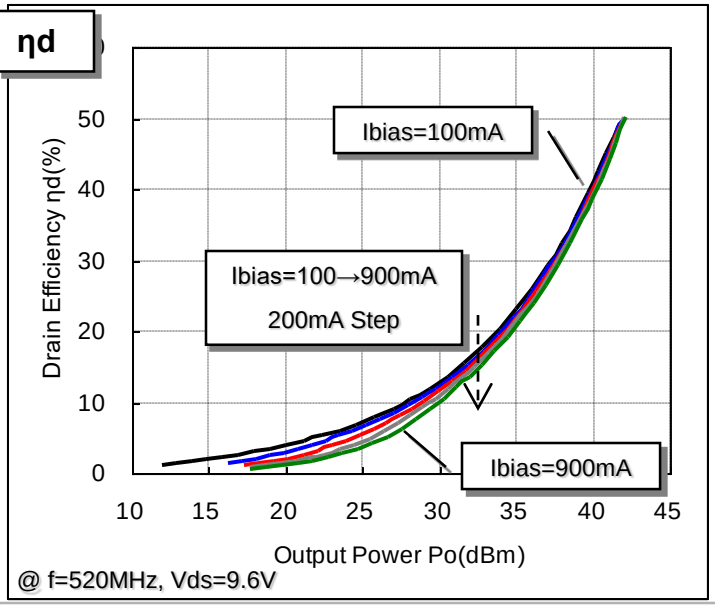
@ f=520MHz, Vds=9.6V

Gp - Scale up



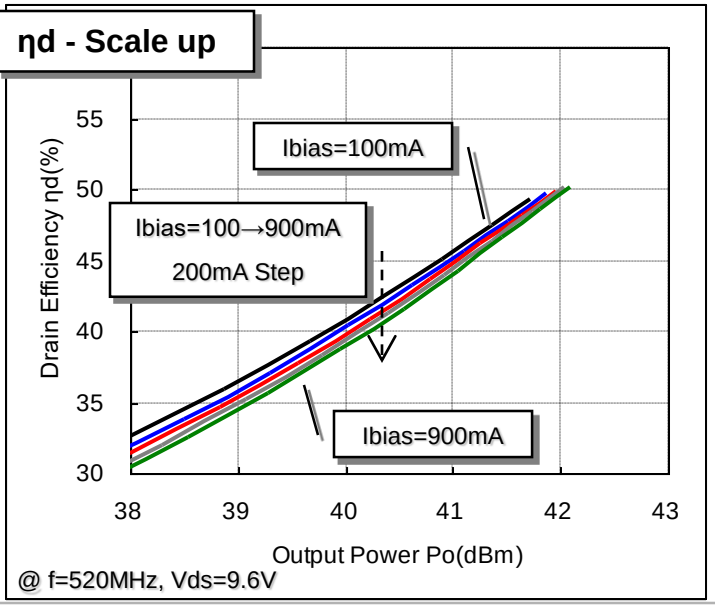
@ f=520MHz, Vds=9.6V

ηd



@ f=520MHz, Vds=9.6V

ηd - Scale up

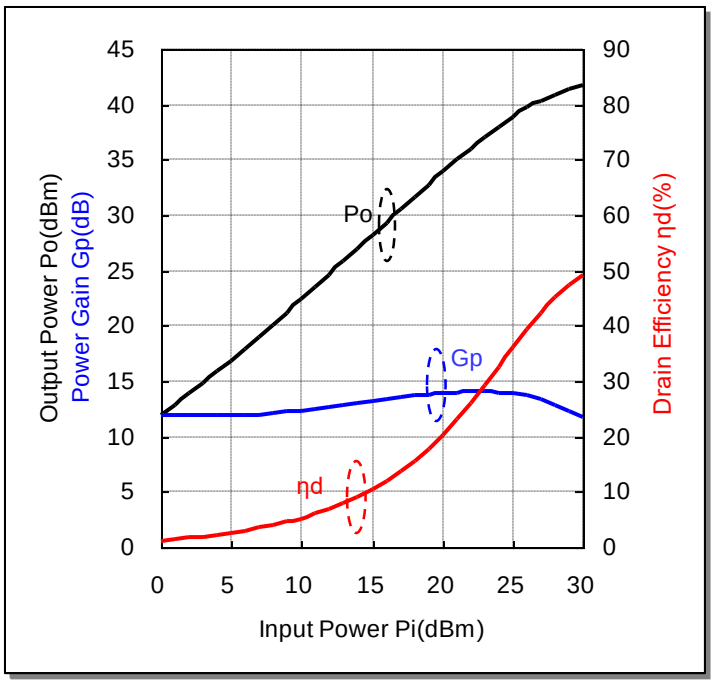


@ f=520MHz, Vds=9.6V

Input-Output Characteristics Vds＝9.6V, Ibias=100mA - Condition 2

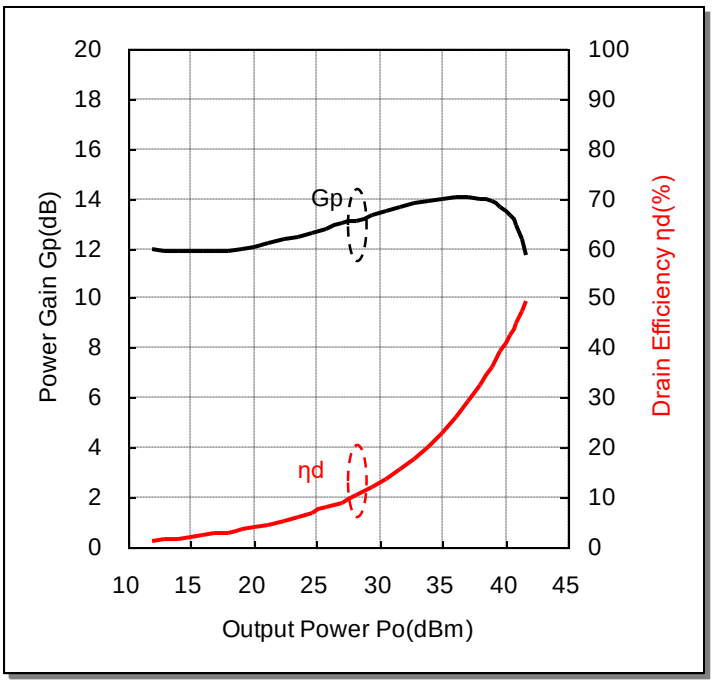
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=98.5mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=98.5mA

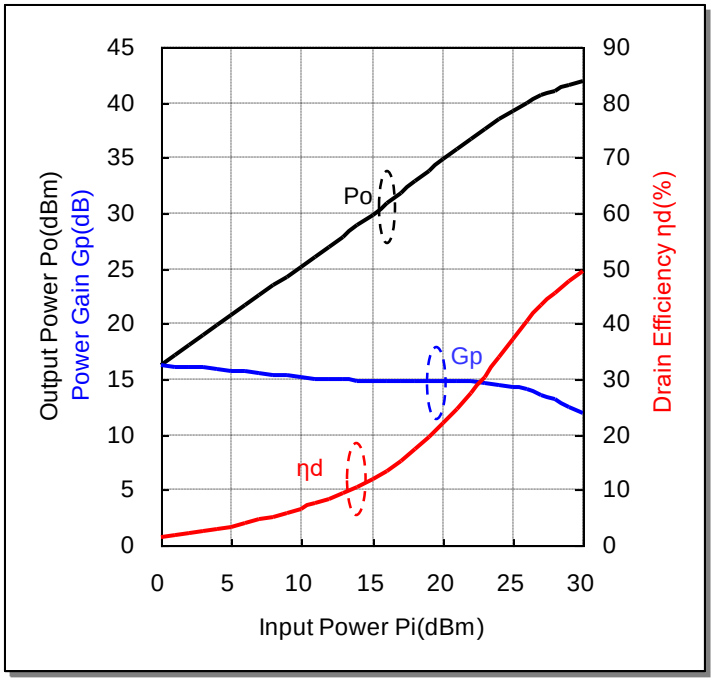
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.46	9.6	98.5	520	0.0	1.0	11.9	0.016	11.9	132	1.2
1.46	9.6	98.5	520	1.0	1.3	12.9	0.020	11.9	139	1.5
1.46	9.6	98.5	520	2.0	1.6	13.9	0.025	11.9	150	1.7
1.46	9.6	98.5	520	3.0	2.0	14.9	0.031	11.9	163	2.0
1.46	9.6	98.5	520	4.0	2.5	15.9	0.039	11.9	176	2.3
1.46	9.6	98.5	520	5.0	3.2	16.9	0.049	11.9	195	2.6
1.46	9.6	98.5	520	6.0	4.0	17.9	0.062	11.9	215	3.0
1.46	9.6	98.5	520	7.0	5.0	19.0	0.079	12.0	240	3.4
1.46	9.6	98.5	520	8.0	6.3	20.1	0.102	12.1	269	3.9
1.46	9.6	98.5	520	9.0	7.9	21.2	0.132	12.2	303	4.5
1.46	9.6	98.5	520	10.0	10.0	22.3	0.171	12.3	341	5.2
1.46	9.6	98.5	520	11.0	12.6	23.5	0.222	12.5	387	6.0
1.46	9.6	98.5	520	12.0	15.8	24.6	0.290	12.6	440	6.9
1.46	9.6	98.5	520	13.0	20.0	25.8	0.379	12.8	502	7.9
1.46	9.6	98.5	520	14.0	25.1	27.0	0.499	13.0	576	9.0
1.46	9.6	98.5	520	15.0	31.6	28.1	0.650	13.1	656	10.3
1.46	9.6	98.5	520	16.0	39.8	29.4	0.861	13.4	754	11.9
1.46	9.6	98.5	520	17.0	50.1	30.5	1.122	13.5	859	13.6
1.46	9.6	98.5	520	18.0	63.1	31.7	1.466	13.7	979	15.6
1.46	9.6	98.5	520	19.0	79.4	32.8	1.905	13.8	1113	17.8
1.46	9.6	98.5	520	20.0	100.0	33.9	2.460	13.9	1264	20.3
1.46	9.6	98.5	520	21.0	125.9	35.0	3.155	14.0	1429	23.0
1.46	9.6	98.5	520	22.0	158.5	36.0	4.009	14.0	1611	25.9
1.46	9.6	98.5	520	23.0	199.5	37.0	5.070	14.0	1810	29.2
1.46	9.6	98.5	520	24.0	251.2	38.0	6.281	14.0	2015	32.5
1.46	9.6	98.5	520	25.0	316.2	38.9	7.727	13.9	2238	36.0
1.46	9.6	98.5	520	26.0	398.1	39.7	9.268	13.7	2456	39.3
1.46	9.6	98.5	520	27.0	501.2	40.3	10.839	13.3	2661	42.4
1.46	9.6	98.5	520	28.0	631.0	40.9	12.303	12.9	2840	45.1
1.46	9.6	98.5	520	29.0	794.3	41.4	13.677	12.4	3003	47.4
1.46	9.6	98.5	520	30.0	1000.0	41.7	14.859	11.7	3140	49.3

Input-Output Characteristics Vds＝9.6V, Ibias=300mA - Condition 2

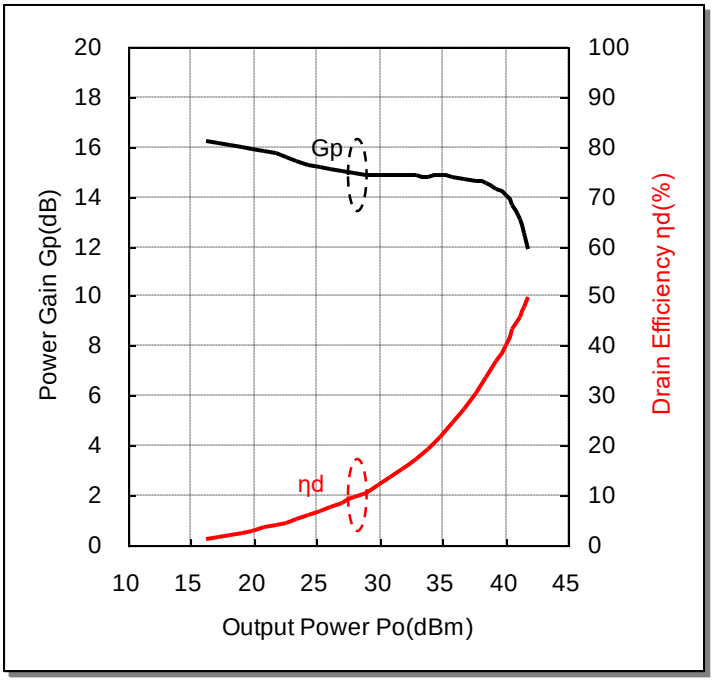
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=294.4mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=294.4mA

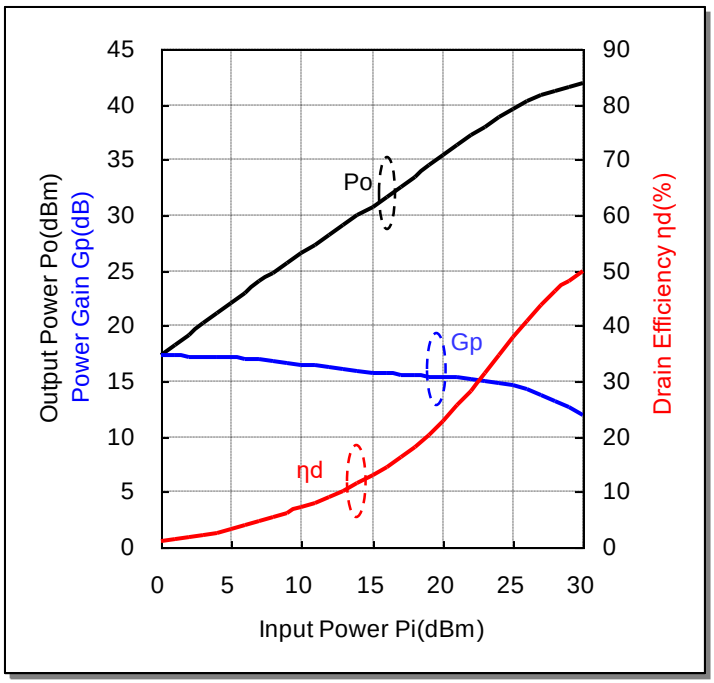
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.63	9.6	294.4	520	0.0	1.0	16.2	0.042	16.2	316	1.4
1.63	9.6	294.4	520	1.0	1.3	17.1	0.052	16.1	322	1.7
1.63	9.6	294.4	520	2.0	1.6	18.1	0.064	16.1	328	2.0
1.63	9.6	294.4	520	3.0	2.0	19.0	0.080	16.0	340	2.4
1.63	9.6	294.4	520	4.0	2.5	19.9	0.099	15.9	350	2.9
1.63	9.6	294.4	520	5.0	3.2	20.8	0.121	15.8	366	3.4
1.63	9.6	294.4	520	6.0	4.0	21.7	0.148	15.7	387	4.0
1.63	9.6	294.4	520	7.0	5.0	22.6	0.181	15.6	411	4.6
1.63	9.6	294.4	520	8.0	6.3	23.4	0.220	15.4	440	5.2
1.63	9.6	294.4	520	9.0	7.9	24.3	0.269	15.3	476	5.9
1.63	9.6	294.4	520	10.0	10.0	25.2	0.331	15.2	519	6.6
1.63	9.6	294.4	520	11.0	12.6	26.1	0.406	15.1	565	7.5
1.63	9.6	294.4	520	12.0	15.8	27.0	0.502	15.0	621	8.4
1.63	9.6	294.4	520	13.0	20.0	27.9	0.619	14.9	682	9.5
1.63	9.6	294.4	520	14.0	25.1	28.9	0.771	14.9	755	10.6
1.63	9.6	294.4	520	15.0	31.6	29.8	0.962	14.8	837	12.0
1.63	9.6	294.4	520	16.0	39.8	30.8	1.211	14.8	932	13.5
1.63	9.6	294.4	520	17.0	50.1	31.8	1.528	14.8	1040	15.3
1.63	9.6	294.4	520	18.0	63.1	32.8	1.928	14.8	1161	17.3
1.63	9.6	294.4	520	19.0	79.4	33.8	2.404	14.8	1291	19.4
1.63	9.6	294.4	520	20.0	100.0	34.8	3.034	14.8	1444	21.9
1.63	9.6	294.4	520	21.0	125.9	35.8	3.758	14.8	1601	24.5
1.63	9.6	294.4	520	22.0	158.5	36.7	4.710	14.7	1783	27.5
1.63	9.6	294.4	520	23.0	199.5	37.6	5.768	14.6	1970	30.5
1.63	9.6	294.4	520	24.0	251.2	38.5	7.079	14.5	2178	33.9
1.63	9.6	294.4	520	25.0	316.2	39.3	8.511	14.3	2390	37.1
1.63	9.6	294.4	520	26.0	398.1	40.0	10.046	14.0	2593	40.4
1.63	9.6	294.4	520	27.0	501.2	40.6	11.535	13.6	2780	43.2
1.63	9.6	294.4	520	28.0	631.0	41.1	12.912	13.1	2945	45.7
1.63	9.6	294.4	520	29.0	794.3	41.5	14.191	12.5	3092	47.8
1.63	9.6	294.4	520	30.0	1000.0	41.9	15.346	11.9	3219	49.7

Input-Output Characteristics Vds＝9.6V, Ibias=500mA - Condition 2

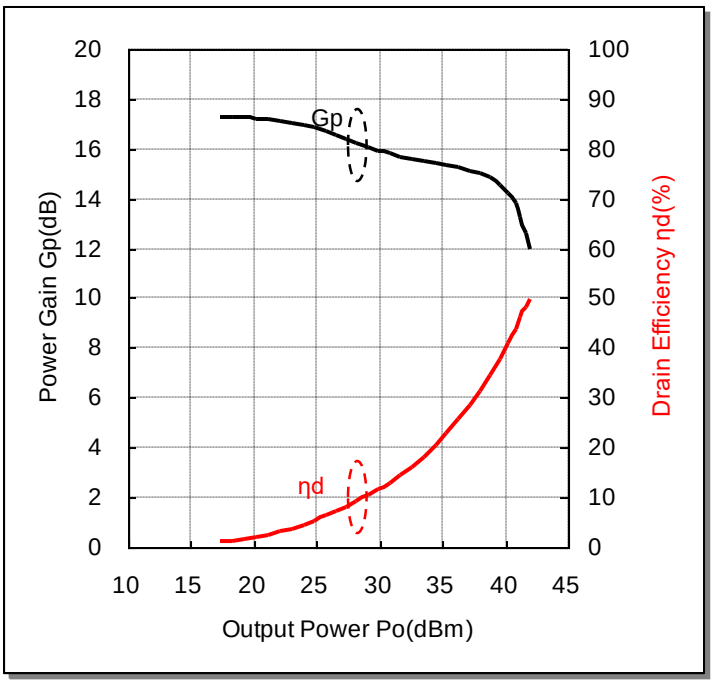
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=495.7mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=495.7mA

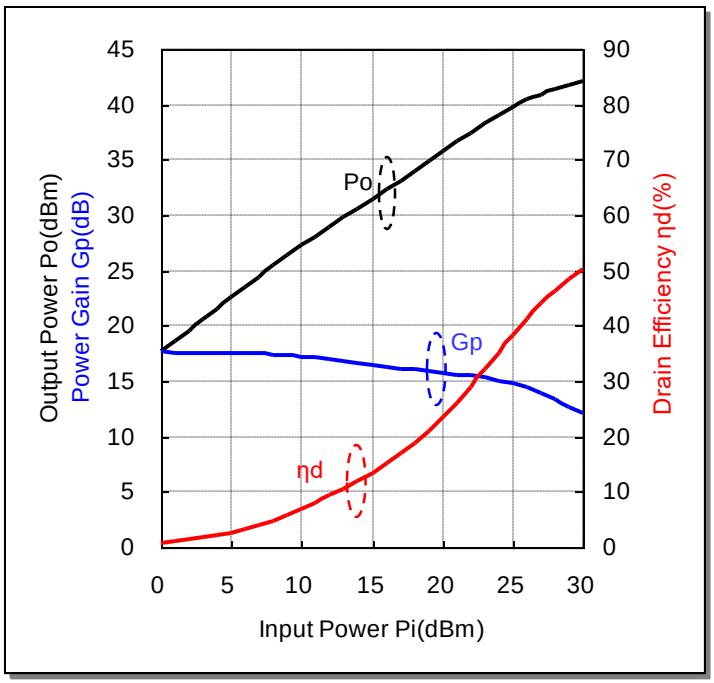
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.76	9.6	495.7	520	0.0	1.0	17.3	0.053	17.3	507	1.1
1.76	9.6	495.7	520	1.0	1.3	18.3	0.067	17.3	512	1.4
1.76	9.6	495.7	520	2.0	1.6	19.2	0.084	17.2	514	1.7
1.76	9.6	495.7	520	3.0	2.0	20.2	0.105	17.2	520	2.1
1.76	9.6	495.7	520	4.0	2.5	21.2	0.131	17.2	528	2.6
1.76	9.6	495.7	520	5.0	3.2	22.1	0.163	17.1	535	3.2
1.76	9.6	495.7	520	6.0	4.0	23.0	0.201	17.0	549	3.8
1.76	9.6	495.7	520	7.0	5.0	24.0	0.248	17.0	564	4.6
1.76	9.6	495.7	520	8.0	6.3	24.8	0.304	16.8	588	5.4
1.76	9.6	495.7	520	9.0	7.9	25.7	0.371	16.7	618	6.3
1.76	9.6	495.7	520	10.0	10.0	26.5	0.449	16.5	654	7.1
1.76	9.6	495.7	520	11.0	12.6	27.4	0.546	16.4	701	8.1
1.76	9.6	495.7	520	12.0	15.8	28.2	0.661	16.2	754	9.1
1.76	9.6	495.7	520	13.0	20.0	29.1	0.805	16.1	817	10.3
1.76	9.6	495.7	520	14.0	25.1	29.9	0.982	15.9	889	11.5
1.76	9.6	495.7	520	15.0	31.6	30.8	1.199	15.8	970	12.9
1.76	9.6	495.7	520	16.0	39.8	31.7	1.476	15.7	1062	14.5
1.76	9.6	495.7	520	17.0	50.1	32.6	1.820	15.6	1168	16.2
1.76	9.6	495.7	520	18.0	63.1	33.5	2.249	15.5	1287	18.2
1.76	9.6	495.7	520	19.0	79.4	34.4	2.773	15.4	1421	20.3
1.76	9.6	495.7	520	20.0	100.0	35.4	3.436	15.4	1569	22.8
1.76	9.6	495.7	520	21.0	125.9	36.3	4.246	15.3	1732	25.5
1.76	9.6	495.7	520	22.0	158.5	37.1	5.176	15.1	1902	28.3
1.76	9.6	495.7	520	23.0	199.5	38.0	6.310	15.0	2094	31.4
1.76	9.6	495.7	520	24.0	251.2	38.8	7.638	14.8	2295	34.7
1.76	9.6	495.7	520	25.0	316.2	39.6	9.057	14.6	2497	37.8
1.76	9.6	495.7	520	26.0	398.1	40.2	10.544	14.2	2689	40.8
1.76	9.6	495.7	520	27.0	501.2	40.8	11.995	13.8	2864	43.6
1.76	9.6	495.7	520	28.0	631.0	41.3	13.366	13.3	3017	46.1
1.76	9.6	495.7	520	29.0	794.3	41.6	14.588	12.6	3155	48.2
1.76	9.6	495.7	520	30.0	1000.0	42.0	15.668	12.0	3272	49.9

Input-Output Characteristics Vds＝9.6V, Ibias=700mA - Condition 2

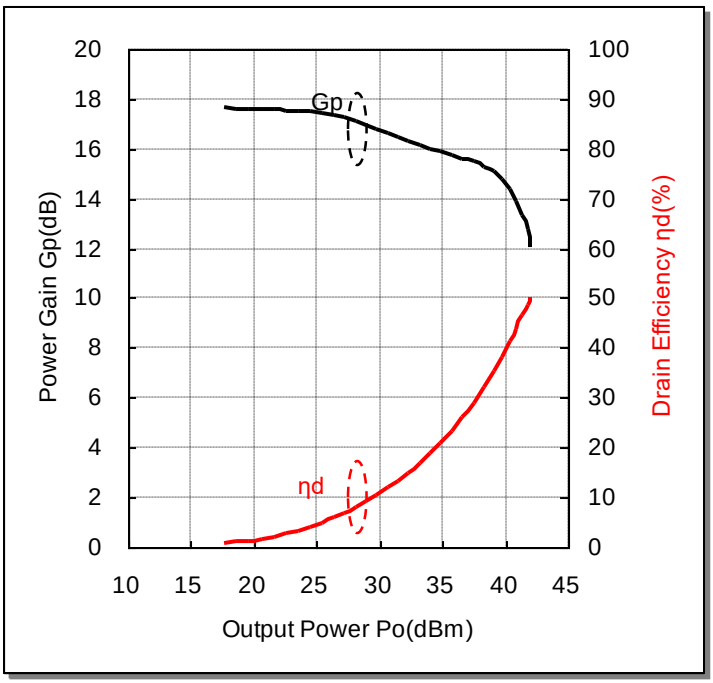
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=691.2mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=691.2mA

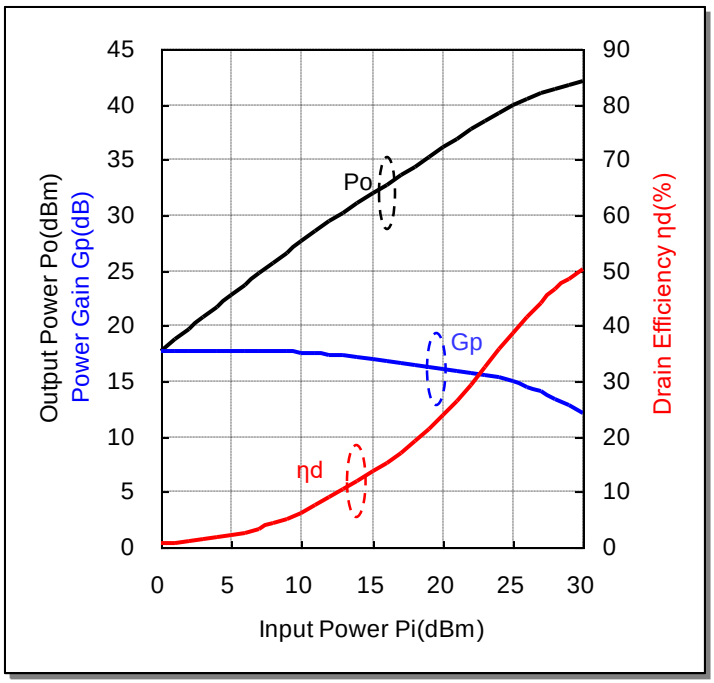
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.88	9.6	691.2	520	0.0	1.0	17.7	0.059	17.7	697	0.9
1.88	9.6	691.2	520	1.0	1.3	18.6	0.073	17.6	702	1.1
1.88	9.6	691.2	520	2.0	1.6	19.6	0.091	17.6	704	1.3
1.88	9.6	691.2	520	3.0	2.0	20.6	0.115	17.6	708	1.7
1.88	9.6	691.2	520	4.0	2.5	21.6	0.144	17.6	711	2.1
1.88	9.6	691.2	520	5.0	3.2	22.5	0.180	17.5	716	2.6
1.88	9.6	691.2	520	6.0	4.0	23.5	0.225	17.5	723	3.2
1.88	9.6	691.2	520	7.0	5.0	24.5	0.281	17.5	733	4.0
1.88	9.6	691.2	520	8.0	6.3	25.4	0.348	17.4	746	4.9
1.88	9.6	691.2	520	9.0	7.9	26.4	0.433	17.4	765	5.9
1.88	9.6	691.2	520	10.0	10.0	27.2	0.530	17.2	791	7.0
1.88	9.6	691.2	520	11.0	12.6	28.1	0.644	17.1	827	8.1
1.88	9.6	691.2	520	12.0	15.8	28.9	0.782	16.9	875	9.3
1.88	9.6	691.2	520	13.0	20.0	29.8	0.948	16.8	935	10.6
1.88	9.6	691.2	520	14.0	25.1	30.6	1.151	16.6	1004	11.9
1.88	9.6	691.2	520	15.0	31.6	31.4	1.390	16.4	1082	13.4
1.88	9.6	691.2	520	16.0	39.8	32.3	1.694	16.3	1176	15.0
1.88	9.6	691.2	520	17.0	50.1	33.2	2.065	16.2	1279	16.8
1.88	9.6	691.2	520	18.0	63.1	34.0	2.523	16.0	1398	18.8
1.88	9.6	691.2	520	19.0	79.4	34.9	3.083	15.9	1528	21.0
1.88	9.6	691.2	520	20.0	100.0	35.8	3.758	15.8	1675	23.4
1.88	9.6	691.2	520	21.0	125.9	36.6	4.592	15.6	1835	26.1
1.88	9.6	691.2	520	22.0	158.5	37.5	5.585	15.5	2010	28.9
1.88	9.6	691.2	520	23.0	199.5	38.3	6.745	15.3	2196	32.0
1.88	9.6	691.2	520	24.0	251.2	39.1	8.072	15.1	2392	35.2
1.88	9.6	691.2	520	25.0	316.2	39.8	9.506	14.8	2587	38.3
1.88	9.6	691.2	520	26.0	398.1	40.4	10.965	14.4	2767	41.3
1.88	9.6	691.2	520	27.0	501.2	40.9	12.359	13.9	2931	43.9
1.88	9.6	691.2	520	28.0	631.0	41.4	13.709	13.4	3078	46.4
1.88	9.6	691.2	520	29.0	794.3	41.7	14.928	12.7	3206	48.5
1.88	9.6	691.2	520	30.0	1000.0	42.0	15.959	12.0	3317	50.1

Input-Output Characteristics Vds＝9.6V, Ibias=900mA - Condition 2

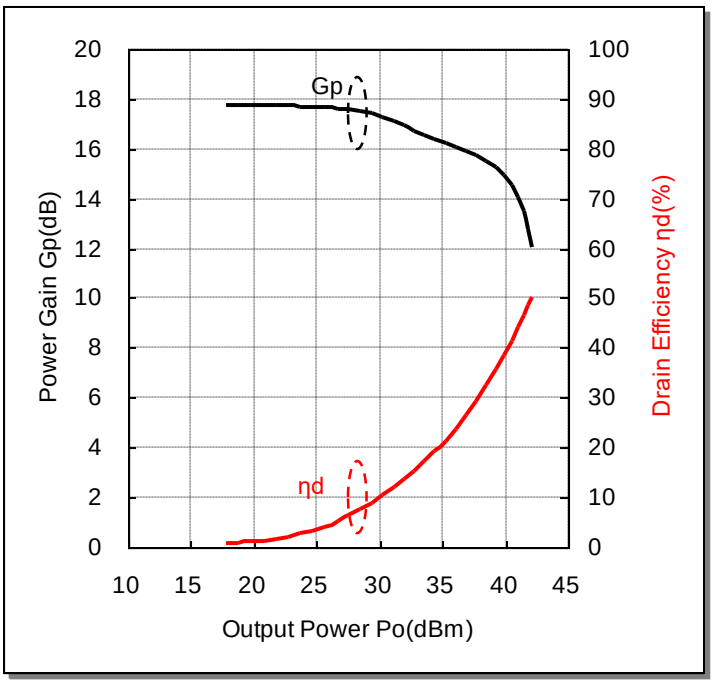
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, Vds=9.6V, Ibias=885.1mA

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, Vds=9.6V, Ibias=885.1mA

Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.99	9.6	885.1	520	0.0	1.0	17.7	0.059	17.7	890	0.7
1.99	9.6	885.1	520	1.0	1.3	18.7	0.075	17.7	891	0.9
1.99	9.6	885.1	520	2.0	1.6	19.7	0.094	17.7	892	1.1
1.99	9.6	885.1	520	3.0	2.0	20.7	0.119	17.7	897	1.4
1.99	9.6	885.1	520	4.0	2.5	21.7	0.149	17.7	900	1.7
1.99	9.6	885.1	520	5.0	3.2	22.7	0.187	17.7	902	2.2
1.99	9.6	885.1	520	6.0	4.0	23.7	0.235	17.7	907	2.7
1.99	9.6	885.1	520	7.0	5.0	24.7	0.294	17.7	914	3.4
1.99	9.6	885.1	520	8.0	6.3	25.7	0.368	17.7	922	4.2
1.99	9.6	885.1	520	9.0	7.9	26.6	0.460	17.6	935	5.1
1.99	9.6	885.1	520	10.0	10.0	27.6	0.571	17.6	950	6.3
1.99	9.6	885.1	520	11.0	12.6	28.5	0.711	17.5	974	7.6
1.99	9.6	885.1	520	12.0	15.8	29.4	0.873	17.4	1007	9.0
1.99	9.6	885.1	520	13.0	20.0	30.3	1.062	17.3	1055	10.5
1.99	9.6	885.1	520	14.0	25.1	31.1	1.288	17.1	1117	12.0
1.99	9.6	885.1	520	15.0	31.6	31.9	1.560	16.9	1192	13.6
1.99	9.6	885.1	520	16.0	39.8	32.7	1.875	16.7	1281	15.2
1.99	9.6	885.1	520	17.0	50.1	33.6	2.280	16.6	1384	17.2
1.99	9.6	885.1	520	18.0	63.1	34.4	2.767	16.4	1500	19.2
1.99	9.6	885.1	520	19.0	79.4	35.3	3.350	16.3	1631	21.4
1.99	9.6	885.1	520	20.0	100.0	36.1	4.064	16.1	1775	23.9
1.99	9.6	885.1	520	21.0	125.9	36.9	4.920	15.9	1933	26.5
1.99	9.6	885.1	520	22.0	158.5	37.7	5.943	15.7	2104	29.4
1.99	9.6	885.1	520	23.0	199.5	38.5	7.145	15.5	2290	32.5
1.99	9.6	885.1	520	24.0	251.2	39.3	8.492	15.3	2482	35.6
1.99	9.6	885.1	520	25.0	316.2	40.0	9.908	15.0	2668	38.7
1.99	9.6	885.1	520	26.0	398.1	40.5	11.324	14.5	2839	41.5
1.99	9.6	885.1	520	27.0	501.2	41.0	12.706	14.0	2993	44.2
1.99	9.6	885.1	520	28.0	631.0	41.5	13.996	13.5	3131	46.6
1.99	9.6	885.1	520	29.0	794.3	41.8	15.171	12.8	3254	48.6
1.99	9.6	885.1	520	30.0	1000.0	42.1	16.144	12.1	3357	50.1

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