

TOSHIBA Discrete Devices RF Power MOS FET **RFM12U7X** Application Note

Contents

- Bias Current / DC Characteristics
Vds = 4.8V, 6.0V, 7.2V, 8.4V, 9.6V
Vgs = 0.5V ~ 2.3V (0.05V Step)
- Input – Output Characteristics / RF Characteristics
Vds = 4.8V, 6.0V, 7.2V, 8.4V, 9.6V
Ibias = 150mA, 350mA, 550mA, 750mA, 950mA, 1150mA
f = 520MHz
Pi = 0 ~ 30dBm (1dB step)
ZL = 1.16+j0.01Ω

- A lot of characteristic curves are published in this sheets.
- These are only typical curves and devices are not necessarily guaranteed at these curves.

Date 2019/08/08
Rev 2.0

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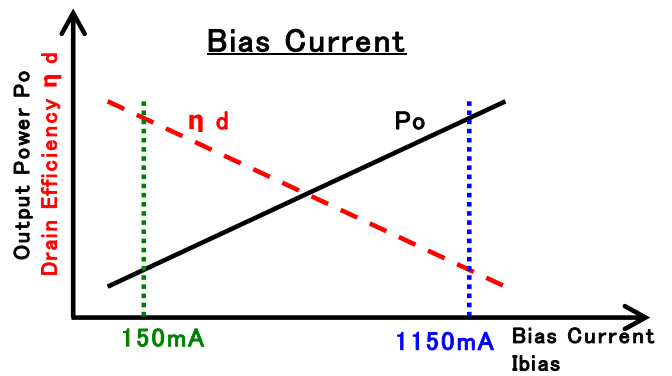
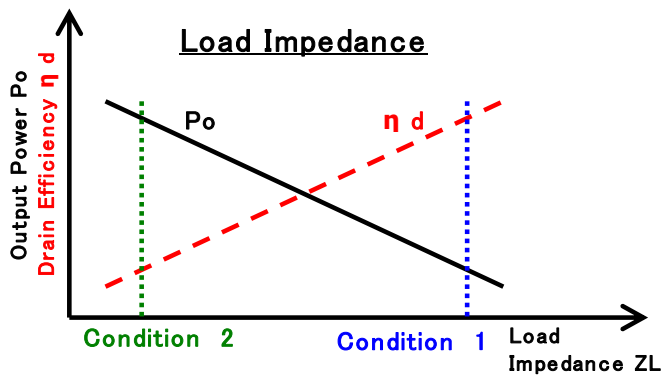
Condition 1 (ZL = 1.16 + j0.01Ω)
 ⇒ “Condition 1” is the load impedance setup which gave priority to “Drain Efficiency”.

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

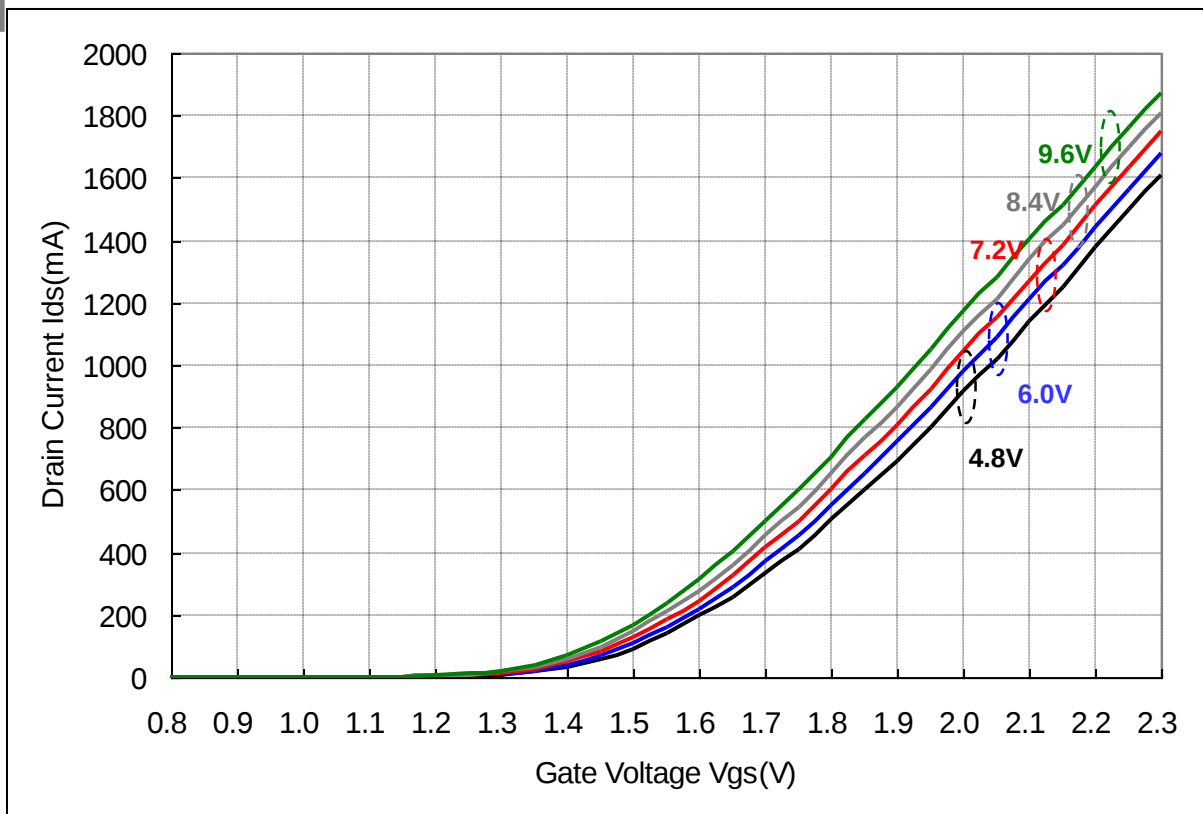
Selection Guide

Load Impedance	Drain-Source Voltage	Bias Current	Contents (Input-Output Characteristics)	Page No
Priority Performance Drain Efficiency Condition $1.16 + j0.01\Omega$ (Please refer to P5 for details.)	4.8V	150mA~ 1150mA Step 200mA	Graph Data	6 7~12
	6.0V	150mA~ 1150mA Step 200mA	Graph Data	13 14~19
	7.2V	150mA~ 1150mA Step 200mA	Graph Data	20 21~26
	8.4V	150mA~ 1150mA Step 200mA	Graph Data	27 28~33
	9.6V	150mA~ 1150mA Step 200mA	Graph Data	34 35~40



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	0.0
0.75	4.8	0.0
0.80	4.8	0.0
0.85	4.8	0.0
0.90	4.8	0.1
0.95	4.8	0.1
1.00	4.8	0.2
1.05	4.8	0.4
1.10	4.8	0.7
1.15	4.8	1.2
1.20	4.8	2.1
1.25	4.8	4.3
1.30	4.8	9.0
1.35	4.8	17.2
1.40	4.8	33.1
1.45	4.8	58.2
1.50	4.8	91.7
1.55	4.8	138.5
1.60	4.8	196.3
1.65	4.8	256.6
1.70	4.8	335.4
1.75	4.8	411.9
1.80	4.8	504.1
1.85	4.8	599.8
1.90	4.8	695.4
1.95	4.8	803.5
2.00	4.8	915.2
2.05	4.8	1021.5
2.10	4.8	1142.8
2.15	4.8	1249.6
2.20	4.8	1375.7
2.25	4.8	1498.6
2.30	4.8	1609.7

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	0.0
0.75	6.0	0.0
0.80	6.0	0.0
0.85	6.0	0.1
0.90	6.0	0.1
0.95	6.0	0.2
1.00	6.0	0.3
1.05	6.0	0.5
1.10	6.0	0.8
1.15	6.0	1.4
1.20	6.0	2.6
1.25	6.0	5.4
1.30	6.0	11.4
1.35	6.0	21.6
1.40	6.0	40.5
1.45	6.0	70.2
1.50	6.0	107.6
1.55	6.0	158.9
1.60	6.0	218.5
1.65	6.0	289.9
1.70	6.0	373.7
1.75	6.0	456.9
1.80	6.0	552.1
1.85	6.0	653.6
1.90	6.0	753.4
1.95	6.0	865.4
2.00	6.0	980.9
2.05	6.0	1089.0
2.10	6.0	1209.6
2.15	6.0	1320.3
2.20	6.0	1443.8
2.25	6.0	1566.4
2.30	6.0	1681.1

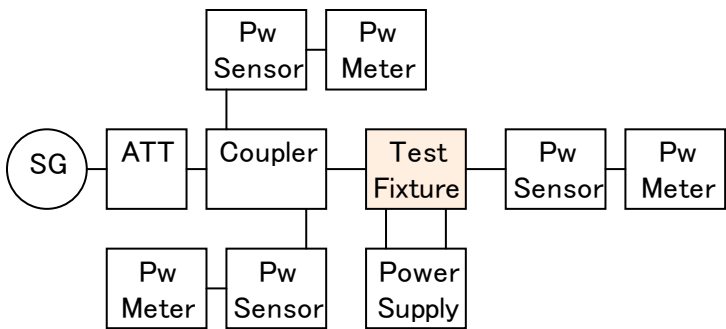
Vgs (V)	Vds (V)	Ids (mA)
0.50	7.2	0.0
0.55	7.2	0.0
0.60	7.2	0.0
0.65	7.2	0.0
0.70	7.2	0.0
0.75	7.2	0.0
0.80	7.2	0.0
0.85	7.2	0.1
0.90	7.2	0.1
0.95	7.2	0.2
1.00	7.2	0.3
1.05	7.2	0.5
1.10	7.2	0.9
1.15	7.2	1.7
1.20	7.2	3.2
1.25	7.2	6.8
1.30	7.2	14.4
1.35	7.2	26.4
1.40	7.2	49.7
1.45	7.2	83.9
1.50	7.2	125.6
1.55	7.2	183.8
1.60	7.2	244.7
1.65	7.2	324.9
1.70	7.2	414.2
1.75	7.2	498.2
1.80	7.2	601.8
1.85	7.2	709.8
1.90	7.2	808.8
1.95	7.2	926.1
2.00	7.2	1044.3
2.05	7.2	1151.5
2.10	7.2	1271.1
2.15	7.2	1383.8
2.20	7.2	1509.8
2.25	7.2	1632.2
2.30	7.2	1747.3

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	0.0
0.75	8.4	0.0
0.80	8.4	0.0
0.85	8.4	0.1
0.90	8.4	0.1
0.95	8.4	0.2
1.00	8.4	0.4
1.05	8.4	0.6
1.10	8.4	1.1
1.15	8.4	2.1
1.20	8.4	4.0
1.25	8.4	8.5
1.30	8.4	17.9
1.35	8.4	33.2
1.40	8.4	59.9
1.45	8.4	98.4
1.50	8.4	144.8
1.55	8.4	209.9
1.60	8.4	278.3
1.65	8.4	362.0
1.70	8.4	455.9
1.75	8.4	547.4
1.80	8.4	655.7
1.85	8.4	766.2
1.90	8.4	866.8
1.95	8.4	987.1
2.00	8.4	1106.0
2.05	8.4	1213.9
2.10	8.4	1337.1
2.15	8.4	1450.5
2.20	8.4	1573.1
2.25	8.4	1697.9
2.30	8.4	1808.4

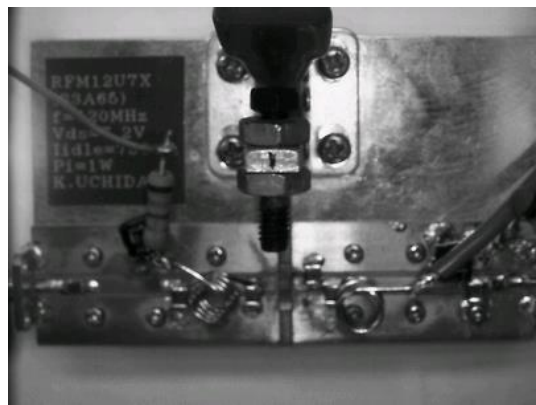
Vgs (V)	Vds (V)	Ids (mA)
0.50	9.6	0.0
0.55	9.6	0.0
0.60	9.6	0.0
0.65	9.6	0.0
0.70	9.6	0.0
0.75	9.6	0.0
0.80	9.6	0.0
0.85	9.6	0.1
0.90	9.6	0.2
0.95	9.6	0.3
1.00	9.6	0.4
1.05	9.6	0.7
1.10	9.6	1.3
1.15	9.6	2.5
1.20	9.6	5.0
1.25	9.6	10.7
1.30	9.6	22.2
1.35	9.6	40.2
1.40	9.6	71.2
1.45	9.6	115.4
1.50	9.6	168.9
1.55	9.6	238.5
1.60	9.6	313.3
1.65	9.6	402.4
1.70	9.6	503.0
1.75	9.6	599.4
1.80	9.6	706.2
1.85	9.6	824.8
1.90	9.6	926.6
1.95	9.6	1048.9
2.00	9.6	1171.4
2.05	9.6	1282.6
2.10	9.6	1403.9
2.15	9.6	1511.9
2.20	9.6	1637.8
2.25	9.6	1760.4
2.30	9.6	1872.0

Test System – Condition

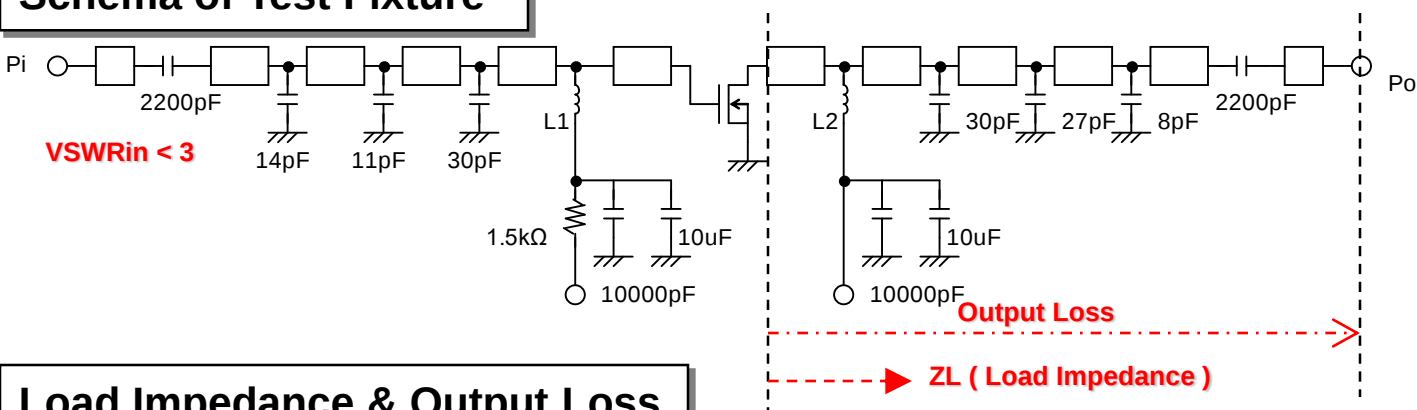
RF Test Block



Test Fixture

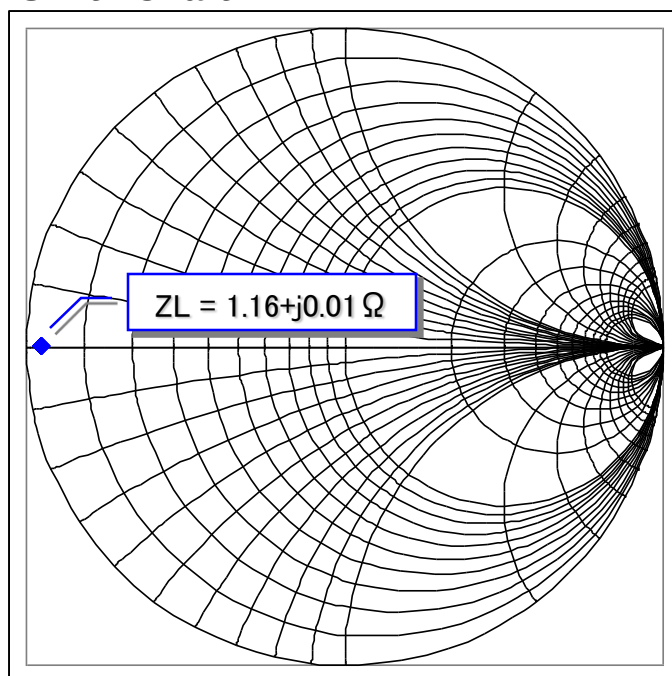


Schema of Test Fixture

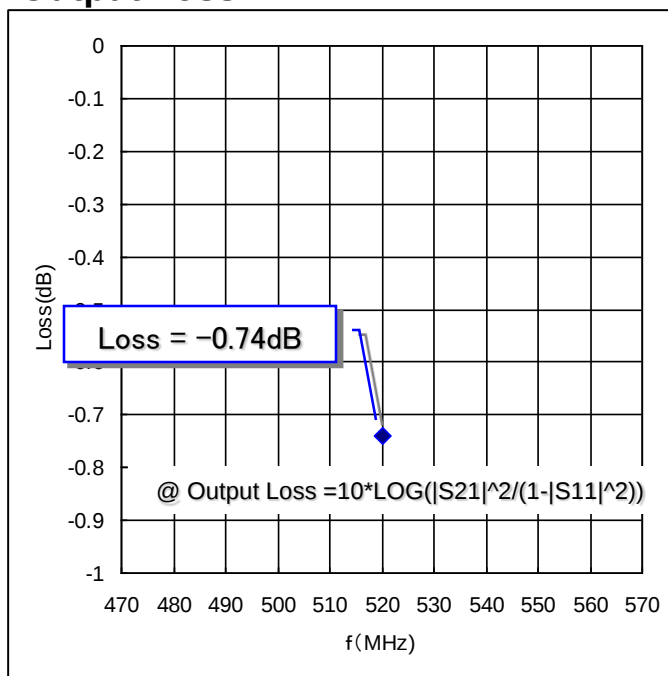


Load Impedance & Output Loss

Smith Chart



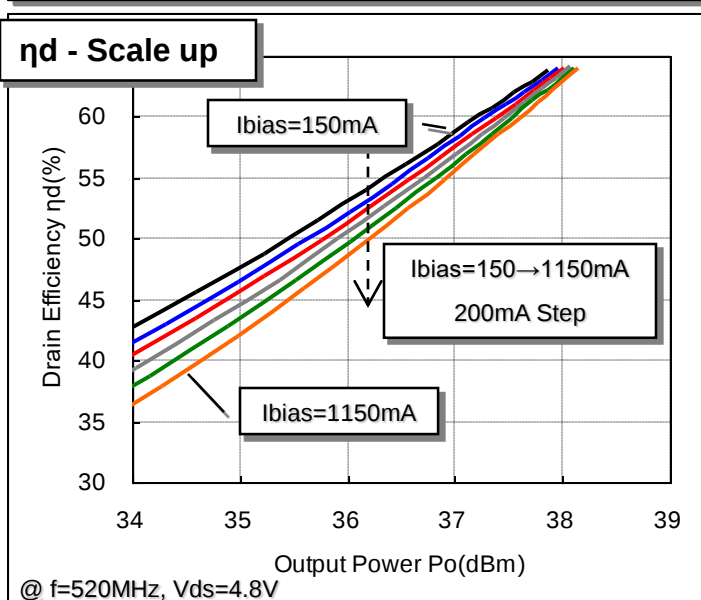
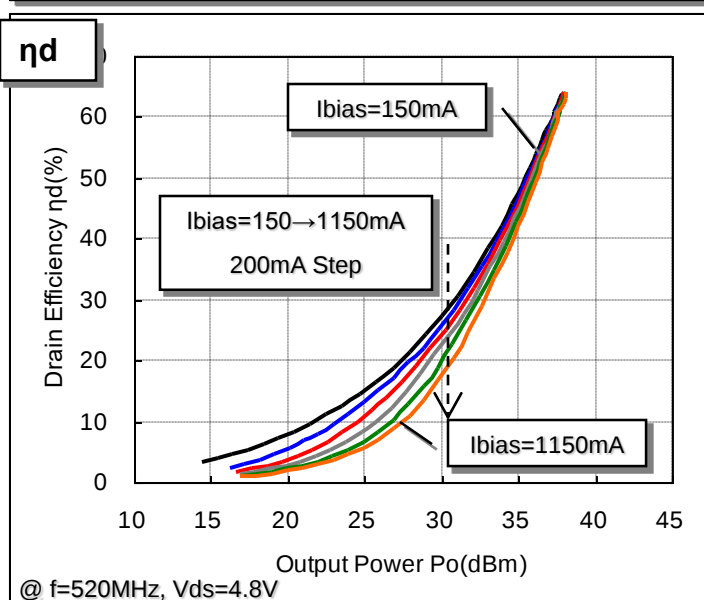
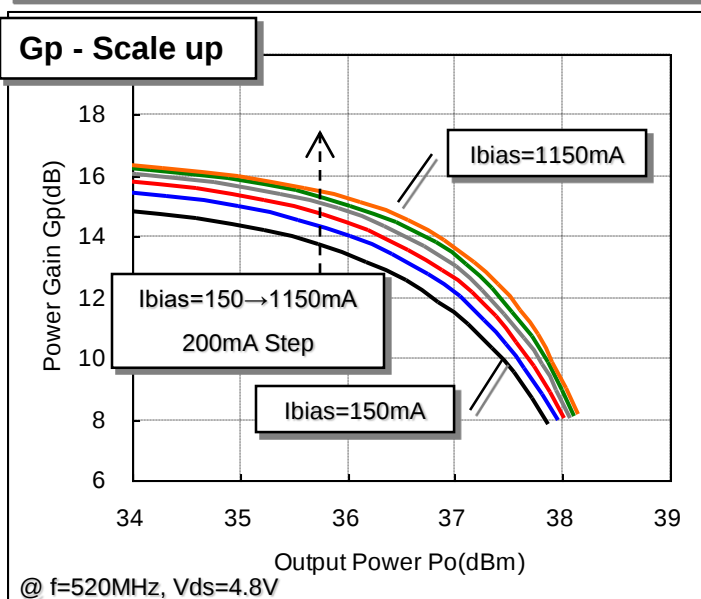
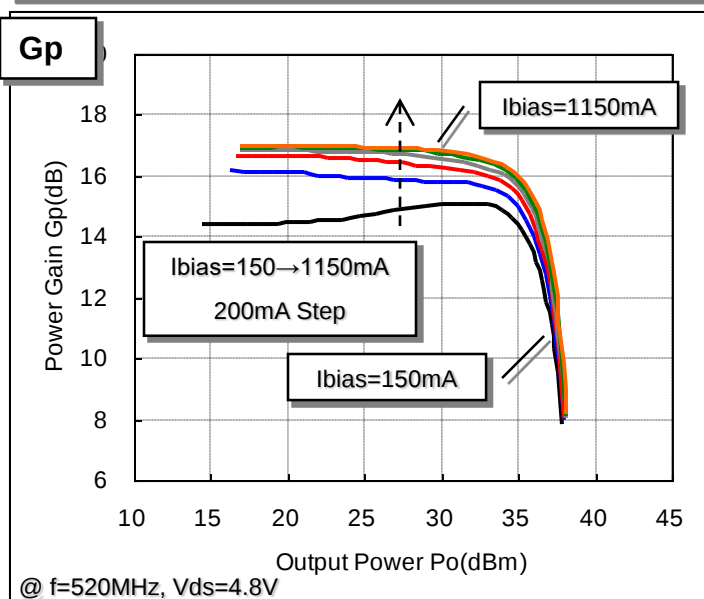
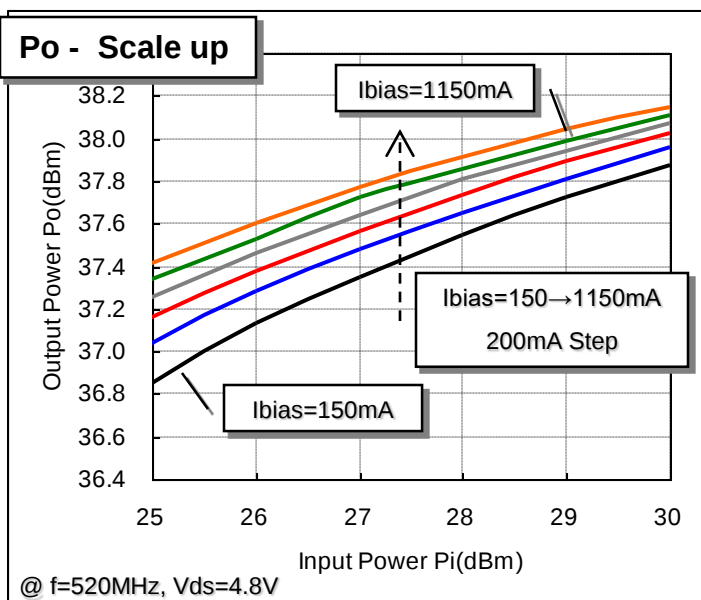
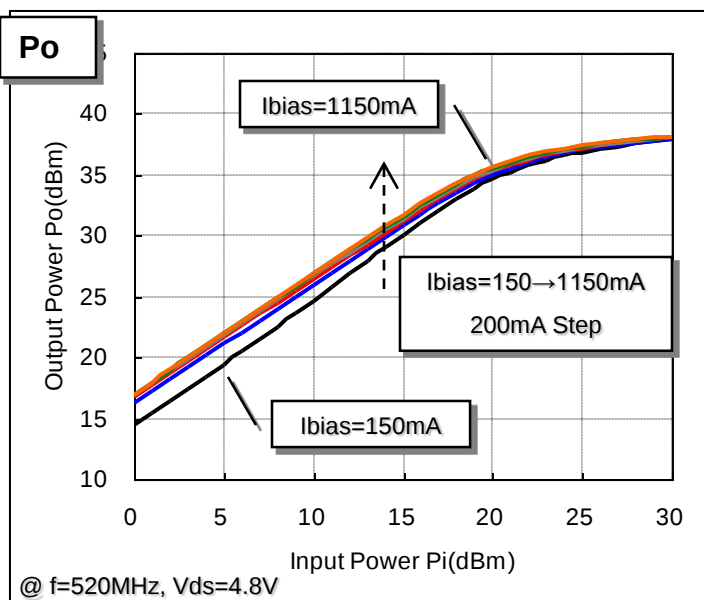
Output Loss



$Z_L = 1.16 + j 0.01 \Omega$, Output Circuit Loss = -0.74dB (@ $f = 520\text{MHz}$)

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

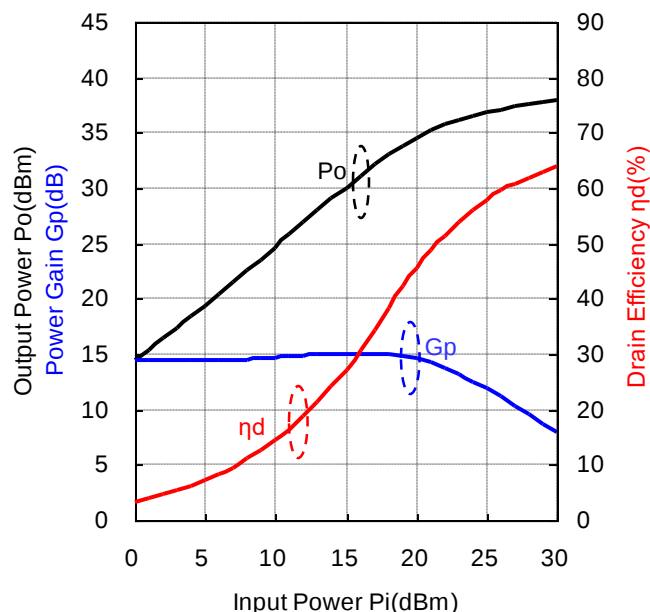
Input - Output Characteristics $V_{ds}=4.8V$ - Condition



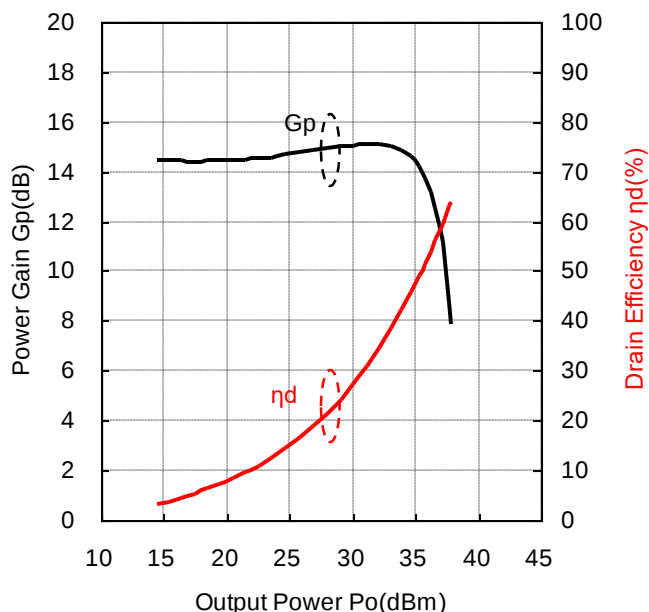
Input-Output Characteristics $V_{ds}=4.8V$, $I_{bias}=150mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=151.0mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=151.0mA$

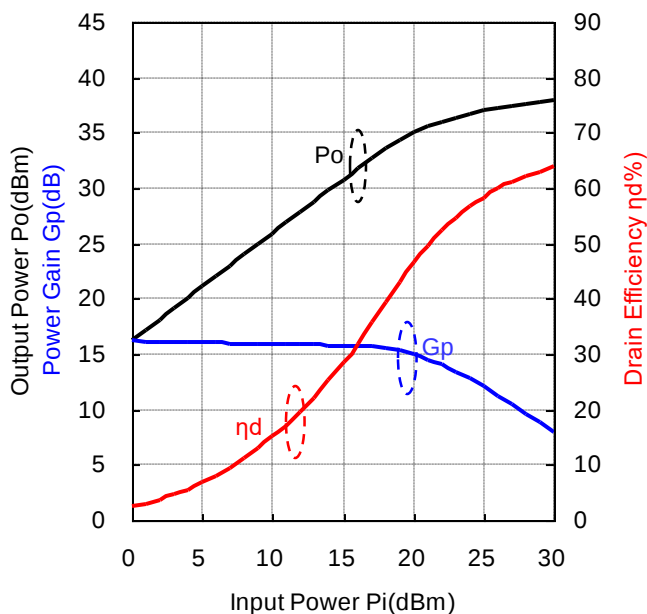
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.58	4.8	151.0	520	0.0	1.0	14.4	0.028	14.4	182	3.2
1.58	4.8	151.0	520	1.0	1.3	15.4	0.035	14.4	192	3.8
1.58	4.8	151.0	520	2.0	1.6	16.4	0.044	14.4	203	4.5
1.58	4.8	151.0	520	3.0	2.0	17.4	0.055	14.4	215	5.3
1.58	4.8	151.0	520	4.0	2.5	18.4	0.070	14.4	232	6.2
1.58	4.8	151.0	520	5.0	3.2	19.4	0.087	14.4	252	7.2
1.58	4.8	151.0	520	6.0	4.0	20.5	0.111	14.5	277	8.4
1.58	4.8	151.0	520	7.0	5.0	21.5	0.140	14.5	305	9.6
1.58	4.8	151.0	520	8.0	6.3	22.5	0.179	14.5	339	11.0
1.58	4.8	151.0	520	9.0	7.9	23.6	0.228	14.6	378	12.5
1.58	4.8	151.0	520	10.0	10.0	24.7	0.292	14.7	424	14.4
1.58	4.8	151.0	520	11.0	12.6	25.8	0.377	14.8	479	16.4
1.58	4.8	151.0	520	12.0	15.8	26.9	0.484	14.9	539	18.7
1.58	4.8	151.0	520	13.0	20.0	27.9	0.622	14.9	610	21.3
1.58	4.8	151.0	520	14.0	25.1	29.0	0.798	15.0	688	24.2
1.58	4.8	151.0	520	15.0	31.6	30.0	1.012	15.0	773	27.3
1.58	4.8	151.0	520	16.0	39.8	31.1	1.285	15.1	872	30.7
1.58	4.8	151.0	520	17.0	50.1	32.1	1.618	15.1	979	34.5
1.58	4.8	151.0	520	18.0	63.1	33.0	2.014	15.0	1093	38.4
1.58	4.8	151.0	520	19.0	79.4	33.9	2.443	14.9	1209	42.1
1.58	4.8	151.0	520	20.0	100.0	34.6	2.884	14.6	1318	45.6
1.58	4.8	151.0	520	21.0	125.9	35.2	3.327	14.2	1420	48.8
1.58	4.8	151.0	520	22.0	158.5	35.7	3.741	13.7	1514	51.5
1.58	4.8	151.0	520	23.0	199.5	36.2	4.150	13.2	1601	54.0
1.58	4.8	151.0	520	24.0	251.2	36.5	4.519	12.5	1676	56.2
1.58	4.8	151.0	520	25.0	316.2	36.8	4.842	11.8	1745	57.8
1.58	4.8	151.0	520	26.0	398.1	37.1	5.164	11.1	1808	59.5
1.58	4.8	151.0	520	27.0	501.2	37.3	5.433	10.3	1864	60.7
1.58	4.8	151.0	520	28.0	631.0	37.5	5.689	9.5	1912	62.0
1.58	4.8	151.0	520	29.0	794.3	37.7	5.916	8.7	1958	62.9
1.58	4.8	151.0	520	30.0	1000.0	37.9	6.124	7.9	1999	63.8

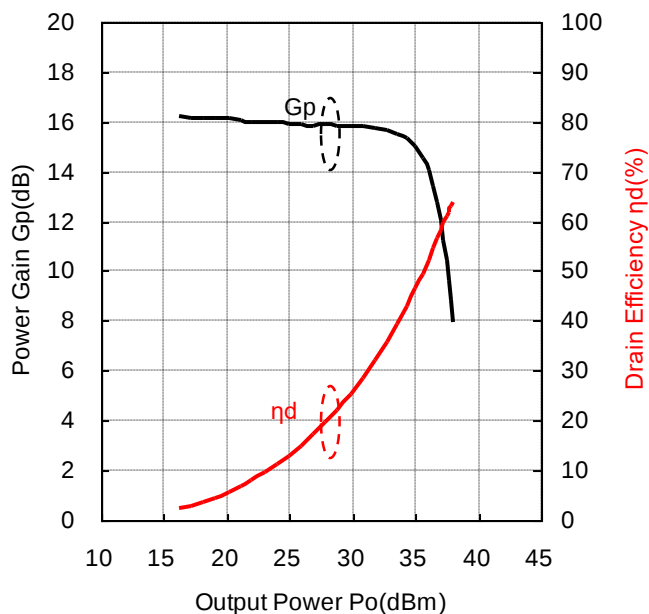
Input-Output Characteristics $V_{ds}=4.8V$, $I_{bias}=350mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=343.8mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=343.8mA$

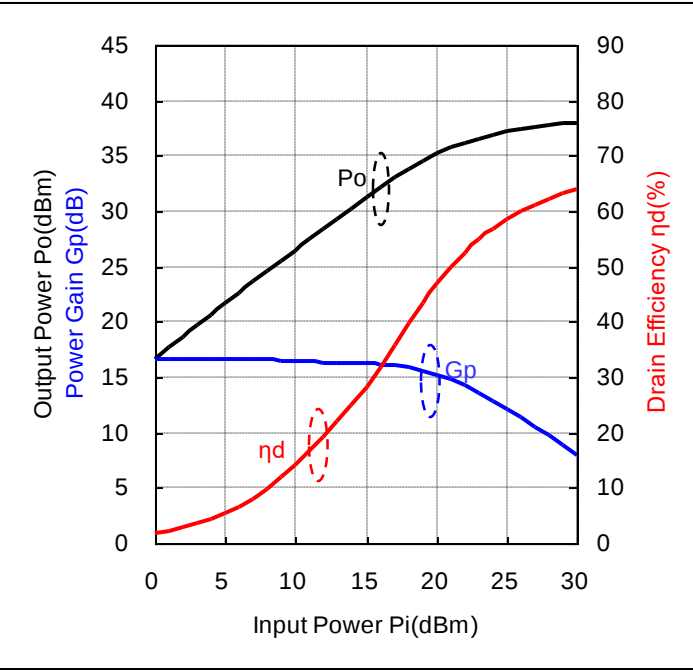
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.72	4.8	343.8	520	0.0	1.0	16.2	0.042	16.2	359	2.4
1.72	4.8	343.8	520	1.0	1.3	17.1	0.052	16.1	362	3.0
1.72	4.8	343.8	520	2.0	1.6	18.1	0.065	16.1	370	3.7
1.72	4.8	343.8	520	3.0	2.0	19.1	0.082	16.1	376	4.5
1.72	4.8	343.8	520	4.0	2.5	20.1	0.103	16.1	387	5.5
1.72	4.8	343.8	520	5.0	3.2	21.1	0.129	16.1	396	6.8
1.72	4.8	343.8	520	6.0	4.0	22.0	0.158	16.0	413	8.0
1.72	4.8	343.8	520	7.0	5.0	23.0	0.199	16.0	435	9.5
1.72	4.8	343.8	520	8.0	6.3	24.0	0.248	16.0	461	11.2
1.72	4.8	343.8	520	9.0	7.9	24.9	0.309	15.9	496	13.0
1.72	4.8	343.8	520	10.0	10.0	25.9	0.391	15.9	541	15.1
1.72	4.8	343.8	520	11.0	12.6	26.9	0.485	15.9	590	17.1
1.72	4.8	343.8	520	12.0	15.8	27.9	0.614	15.9	651	19.6
1.72	4.8	343.8	520	13.0	20.0	28.8	0.762	15.8	716	22.2
1.72	4.8	343.8	520	14.0	25.1	29.8	0.957	15.8	793	25.1
1.72	4.8	343.8	520	15.0	31.6	30.8	1.205	15.8	884	28.4
1.72	4.8	343.8	520	16.0	39.8	31.8	1.503	15.8	980	31.9
1.72	4.8	343.8	520	17.0	50.1	32.7	1.858	15.7	1086	35.6
1.72	4.8	343.8	520	18.0	63.1	33.5	2.259	15.5	1196	39.4
1.72	4.8	343.8	520	19.0	79.4	34.3	2.698	15.3	1306	43.0
1.72	4.8	343.8	520	20.0	100.0	35.0	3.148	15.0	1411	46.5
1.72	4.8	343.8	520	21.0	125.9	35.5	3.581	14.5	1507	49.5
1.72	4.8	343.8	520	22.0	158.5	36.0	3.999	14.0	1595	52.2
1.72	4.8	343.8	520	23.0	199.5	36.4	4.375	13.4	1672	54.5
1.72	4.8	343.8	520	24.0	251.2	36.8	4.732	12.8	1741	56.6
1.72	4.8	343.8	520	25.0	316.2	37.0	5.058	12.0	1806	58.4
1.72	4.8	343.8	520	26.0	398.1	37.3	5.346	11.3	1861	59.8
1.72	4.8	343.8	520	27.0	501.2	37.5	5.598	10.5	1910	61.0
1.72	4.8	343.8	520	28.0	631.0	37.7	5.821	9.7	1955	62.0
1.72	4.8	343.8	520	29.0	794.3	37.8	6.039	8.8	1995	63.1
1.72	4.8	343.8	520	30.0	1000.0	38.0	6.252	8.0	2036	64.0

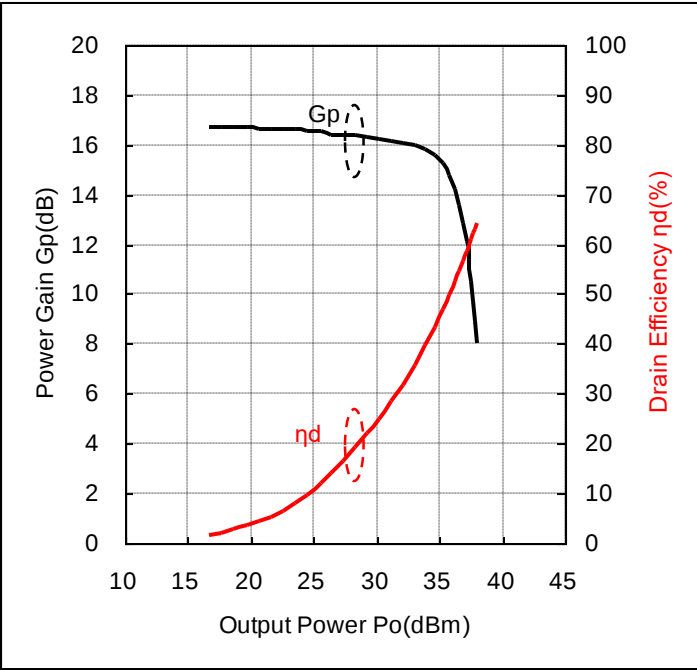
Input-Output Characteristics $V_{ds}=4.8V$, $I_{bias}=550mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=542.8mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=542.8mA$

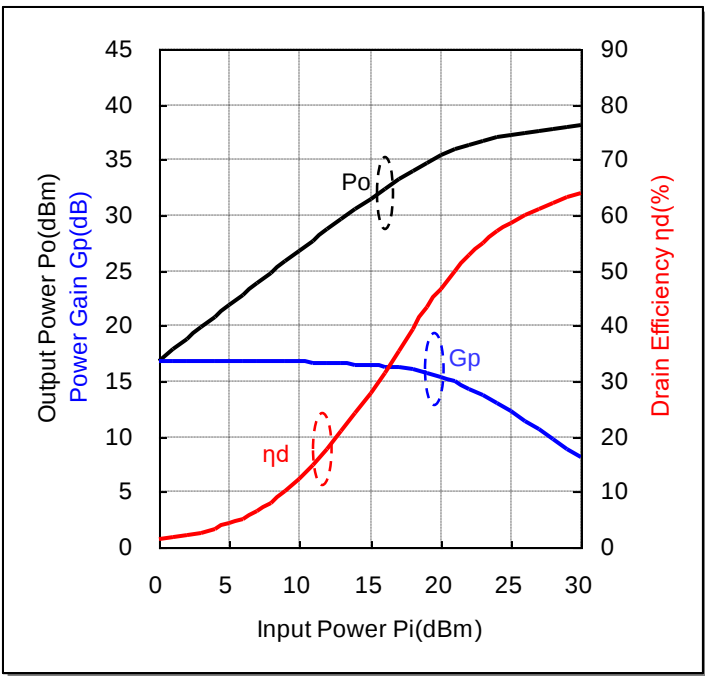
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.84	4.8	542.8	520	0.0	1.0	16.7	0.047	16.7	551	1.8
1.84	4.8	542.8	520	1.0	1.3	17.7	0.058	16.7	552	2.2
1.84	4.8	542.8	520	2.0	1.6	18.7	0.074	16.7	556	2.8
1.84	4.8	542.8	520	3.0	2.0	19.7	0.093	16.7	560	3.4
1.84	4.8	542.8	520	4.0	2.5	20.6	0.116	16.6	562	4.3
1.84	4.8	542.8	520	5.0	3.2	21.6	0.145	16.6	571	5.3
1.84	4.8	542.8	520	6.0	4.0	22.6	0.182	16.6	580	6.5
1.84	4.8	542.8	520	7.0	5.0	23.6	0.229	16.6	591	8.1
1.84	4.8	542.8	520	8.0	6.3	24.5	0.284	16.5	606	9.8
1.84	4.8	542.8	520	9.0	7.9	25.5	0.356	16.5	626	11.9
1.84	4.8	542.8	520	10.0	10.0	26.4	0.439	16.4	655	13.9
1.84	4.8	542.8	520	11.0	12.6	27.4	0.552	16.4	696	16.5
1.84	4.8	542.8	520	12.0	15.8	28.4	0.684	16.4	745	19.1
1.84	4.8	542.8	520	13.0	20.0	29.3	0.851	16.3	808	22.0
1.84	4.8	542.8	520	14.0	25.1	30.2	1.057	16.2	881	25.0
1.84	4.8	542.8	520	15.0	31.6	31.2	1.312	16.2	964	28.4
1.84	4.8	542.8	520	16.0	39.8	32.1	1.618	16.1	1057	31.9
1.84	4.8	542.8	520	17.0	50.1	33.0	2.000	16.0	1164	35.8
1.84	4.8	542.8	520	18.0	63.1	33.8	2.427	15.8	1274	39.7
1.84	4.8	542.8	520	19.0	79.4	34.6	2.884	15.6	1382	43.5
1.84	4.8	542.8	520	20.0	100.0	35.2	3.334	15.2	1483	46.8
1.84	4.8	542.8	520	21.0	125.9	35.8	3.767	14.8	1575	49.8
1.84	4.8	542.8	520	22.0	158.5	36.2	4.169	14.2	1655	52.5
1.84	4.8	542.8	520	23.0	199.5	36.6	4.539	13.6	1727	54.8
1.84	4.8	542.8	520	24.0	251.2	36.9	4.887	12.9	1794	56.8
1.84	4.8	542.8	520	25.0	316.2	37.2	5.200	12.2	1851	58.5
1.84	4.8	542.8	520	26.0	398.1	37.4	5.470	11.4	1902	59.9
1.84	4.8	542.8	520	27.0	501.2	37.6	5.702	10.6	1946	61.0
1.84	4.8	542.8	520	28.0	631.0	37.7	5.929	9.7	1987	62.2
1.84	4.8	542.8	520	29.0	794.3	37.9	6.152	8.9	2028	63.2
1.84	4.8	542.8	520	30.0	1000.0	38.0	6.339	8.0	2062	64.1

Input-Output Characteristics $V_{ds}=4.8V$, $I_{bias}=750mA$ - Condition

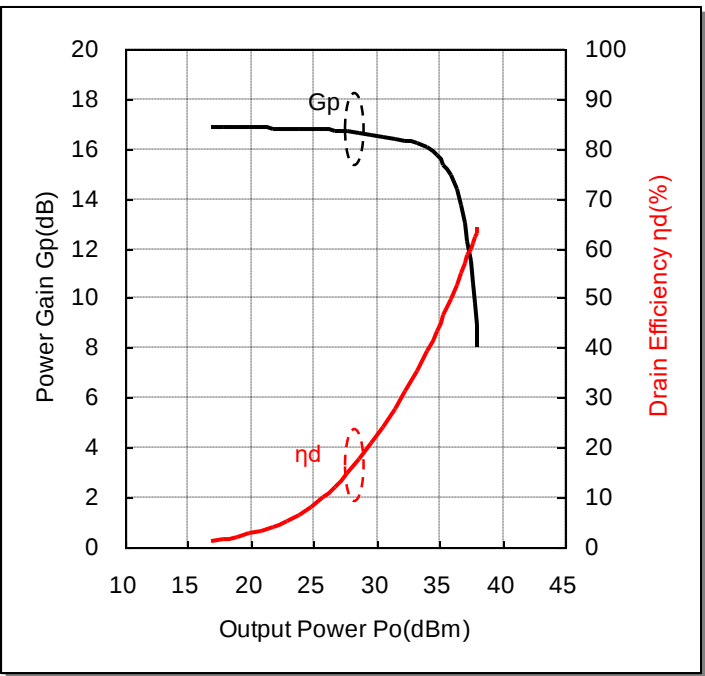
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, $V_{ds}=4.8V$, $I_{bias}=736.0mA$

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, $V_{ds}=4.8V$, $I_{bias}=736.0mA$

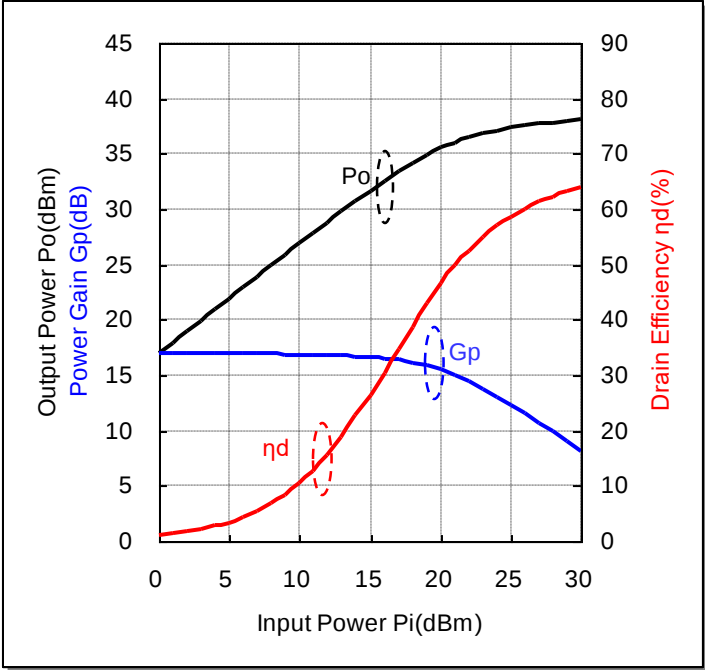
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.93	4.8	736.0	520	0.0	1.0	16.9	0.049	16.9	740	1.4
1.93	4.8	736.0	520	1.0	1.3	17.9	0.061	16.9	745	1.7
1.93	4.8	736.0	520	2.0	1.6	18.9	0.077	16.9	745	2.2
1.93	4.8	736.0	520	3.0	2.0	19.9	0.097	16.9	748	2.7
1.93	4.8	736.0	520	4.0	2.5	20.8	0.121	16.8	752	3.4
1.93	4.8	736.0	520	5.0	3.2	21.8	0.152	16.8	754	4.2
1.93	4.8	736.0	520	6.0	4.0	22.8	0.191	16.8	760	5.2
1.93	4.8	736.0	520	7.0	5.0	23.8	0.240	16.8	766	6.5
1.93	4.8	736.0	520	8.0	6.3	24.8	0.301	16.8	774	8.1
1.93	4.8	736.0	520	9.0	7.9	25.8	0.378	16.8	787	10.0
1.93	4.8	736.0	520	10.0	10.0	26.7	0.470	16.7	803	12.2
1.93	4.8	736.0	520	11.0	12.6	27.7	0.590	16.7	826	14.9
1.93	4.8	736.0	520	12.0	15.8	28.6	0.733	16.6	857	17.8
1.93	4.8	736.0	520	13.0	20.0	29.6	0.906	16.6	904	20.9
1.93	4.8	736.0	520	14.0	25.1	30.5	1.122	16.5	967	24.2
1.93	4.8	736.0	520	15.0	31.6	31.4	1.387	16.4	1043	27.7
1.93	4.8	736.0	520	16.0	39.8	32.3	1.714	16.3	1134	31.5
1.93	4.8	736.0	520	17.0	50.1	33.2	2.094	16.2	1232	35.4
1.93	4.8	736.0	520	18.0	63.1	34.0	2.529	16.0	1337	39.4
1.93	4.8	736.0	520	19.0	79.4	34.8	2.999	15.8	1444	43.3
1.93	4.8	736.0	520	20.0	100.0	35.4	3.443	15.4	1539	46.6
1.93	4.8	736.0	520	21.0	125.9	35.9	3.908	14.9	1629	50.0
1.93	4.8	736.0	520	22.0	158.5	36.3	4.305	14.3	1705	52.6
1.93	4.8	736.0	520	23.0	199.5	36.7	4.688	13.7	1776	55.0
1.93	4.8	736.0	520	24.0	251.2	37.0	5.023	13.0	1836	57.0
1.93	4.8	736.0	520	25.0	316.2	37.3	5.309	12.3	1888	58.6
1.93	4.8	736.0	520	26.0	398.1	37.5	5.572	11.5	1935	60.0
1.93	4.8	736.0	520	27.0	501.2	37.6	5.808	10.6	1978	61.2
1.93	4.8	736.0	520	28.0	631.0	37.8	6.039	9.8	2019	62.3
1.93	4.8	736.0	520	29.0	794.3	37.9	6.223	8.9	2052	63.2
1.93	4.8	736.0	520	30.0	1000.0	38.1	6.412	8.1	2083	64.1

Input-Output Characteristics $V_{ds}=4.8V$, $I_{bias}=950mA$ - Condition

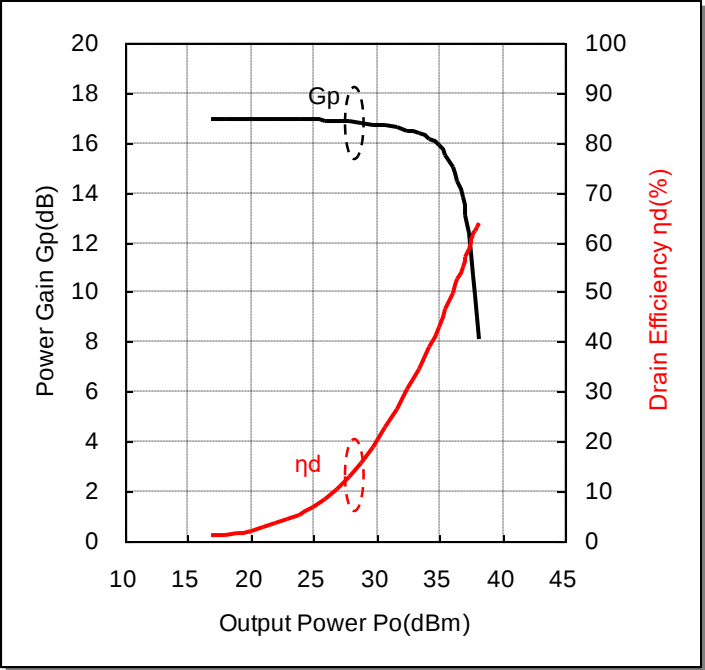
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=939.3mA$

Power Gain, Drain Efficiency vs Output Power



@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=939.3mA$

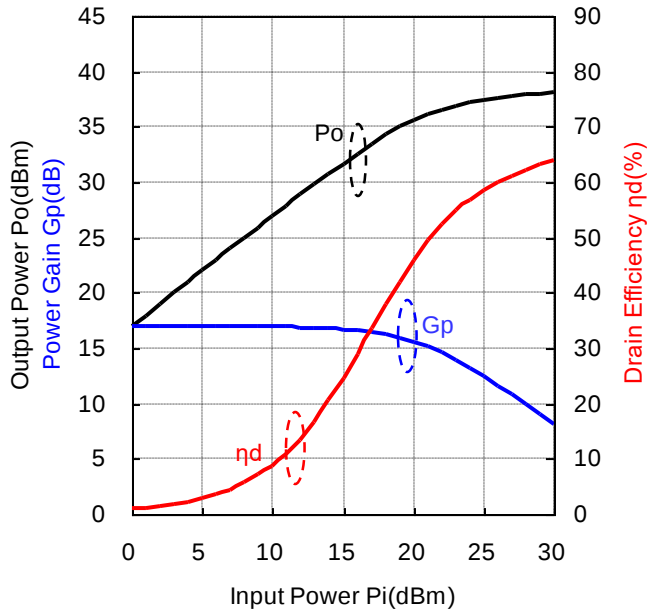
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	I _{ds} (mA)	η _d (%)
2.03	4.8	939.3	520	0.0	1.0	16.9	0.049	16.9	937	1.1
2.03	4.8	939.3	520	1.0	1.3	17.9	0.062	16.9	938	1.4
2.03	4.8	939.3	520	2.0	1.6	18.9	0.078	16.9	943	1.7
2.03	4.8	939.3	520	3.0	2.0	20.0	0.099	17.0	941	2.2
2.03	4.8	939.3	520	4.0	2.5	20.9	0.124	16.9	945	2.7
2.03	4.8	939.3	520	5.0	3.2	21.9	0.156	16.9	951	3.4
2.03	4.8	939.3	520	6.0	4.0	22.9	0.197	16.9	951	4.3
2.03	4.8	939.3	520	7.0	5.0	23.9	0.247	16.9	955	5.4
2.03	4.8	939.3	520	8.0	6.3	24.9	0.310	16.9	962	6.7
2.03	4.8	939.3	520	9.0	7.9	25.9	0.385	16.9	968	8.3
2.03	4.8	939.3	520	10.0	10.0	26.9	0.484	16.9	978	10.3
2.03	4.8	939.3	520	11.0	12.6	27.8	0.608	16.8	994	12.7
2.03	4.8	939.3	520	12.0	15.8	28.8	0.762	16.8	1011	15.7
2.03	4.8	939.3	520	13.0	20.0	29.7	0.942	16.7	1039	18.9
2.03	4.8	939.3	520	14.0	25.1	30.7	1.175	16.7	1078	22.7
2.03	4.8	939.3	520	15.0	31.6	31.6	1.445	16.6	1137	26.5
2.03	4.8	939.3	520	16.0	39.8	32.5	1.774	16.5	1212	30.5
2.03	4.8	939.3	520	17.0	50.1	33.4	2.173	16.4	1305	34.7
2.03	4.8	939.3	520	18.0	63.1	34.2	2.612	16.2	1403	38.8
2.03	4.8	939.3	520	19.0	79.4	34.9	3.090	15.9	1502	42.9
2.03	4.8	939.3	520	20.0	100.0	35.5	3.565	15.5	1596	46.5
2.03	4.8	939.3	520	21.0	125.9	36.0	4.009	15.0	1679	49.7
2.03	4.8	939.3	520	22.0	158.5	36.5	4.416	14.5	1752	52.5
2.03	4.8	939.3	520	23.0	199.5	36.8	4.808	13.8	1821	55.0
2.03	4.8	939.3	520	24.0	251.2	37.1	5.129	13.1	1876	56.9
2.03	4.8	939.3	520	25.0	316.2	37.3	5.420	12.3	1925	58.7
2.03	4.8	939.3	520	26.0	398.1	37.5	5.662	11.5	1968	59.9
2.03	4.8	939.3	520	27.0	501.2	37.7	5.916	10.7	2010	61.3
2.03	4.8	939.3	520	28.0	631.0	37.9	6.109	9.9	2044	62.3
2.03	4.8	939.3	520	29.0	794.3	38.0	6.295	9.0	2076	63.2
2.03	4.8	939.3	520	30.0	1000.0	38.1	6.471	8.1	2105	64.0

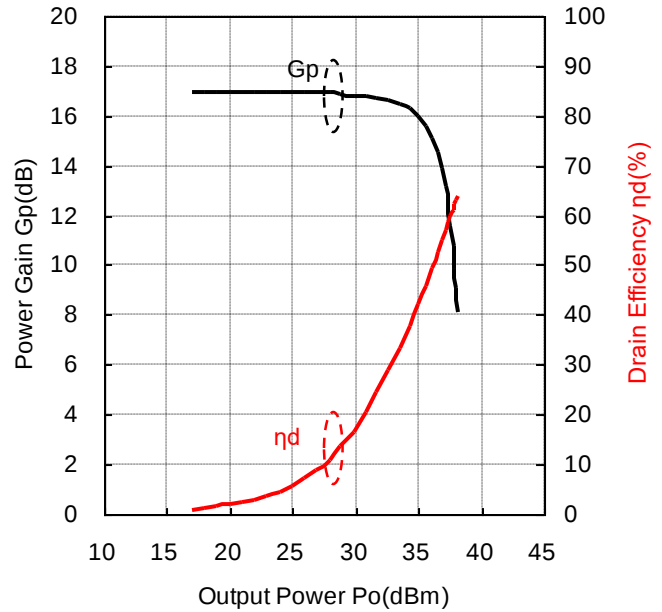
Input-Output Characteristics $V_{ds}=4.8V$, $I_{bias}=1150mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=1138.1mA$

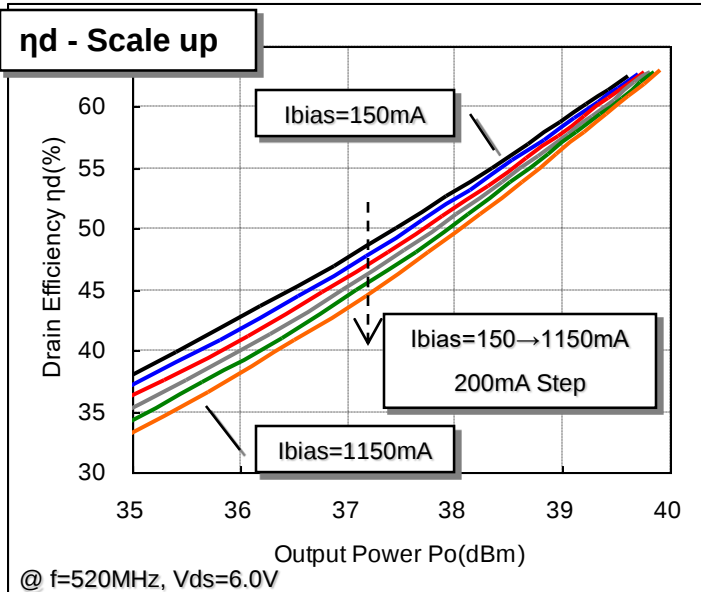
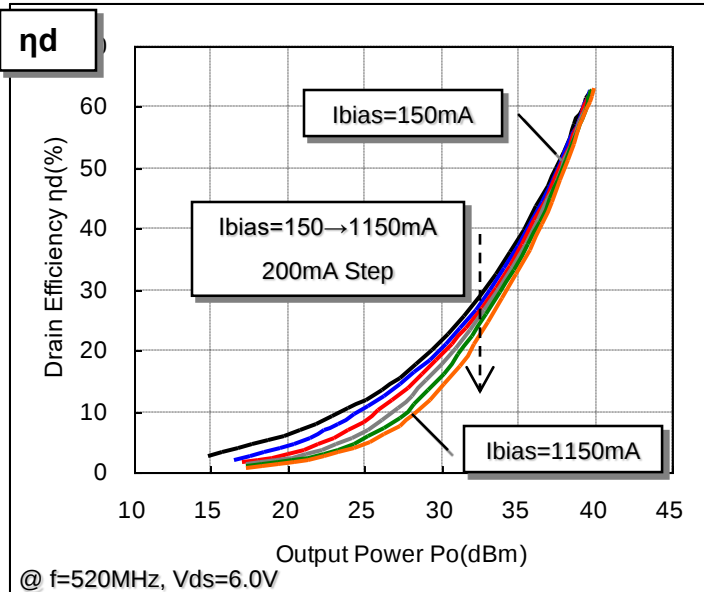
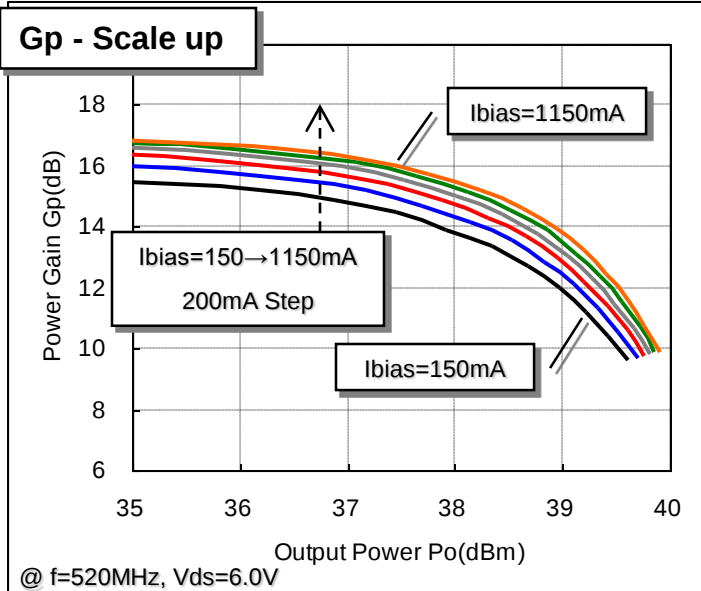
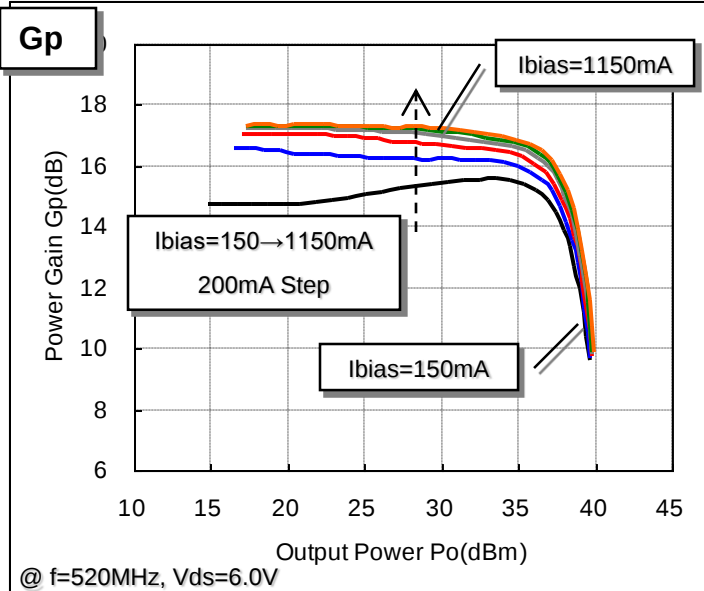
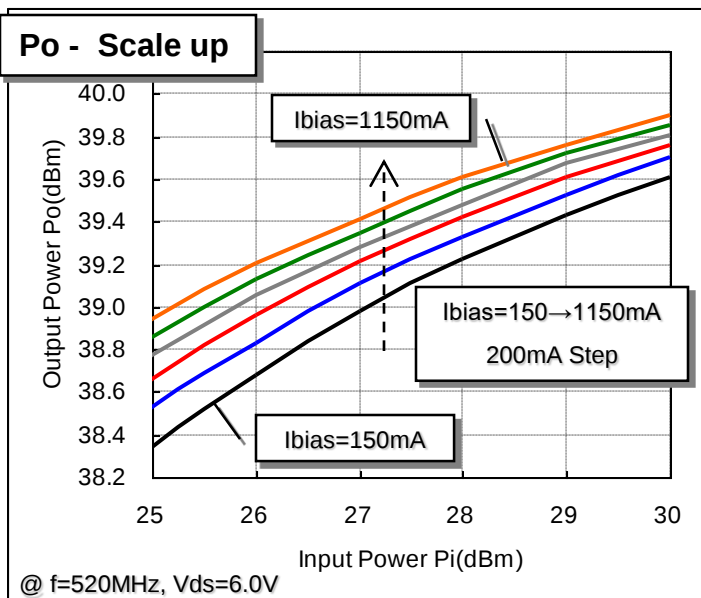
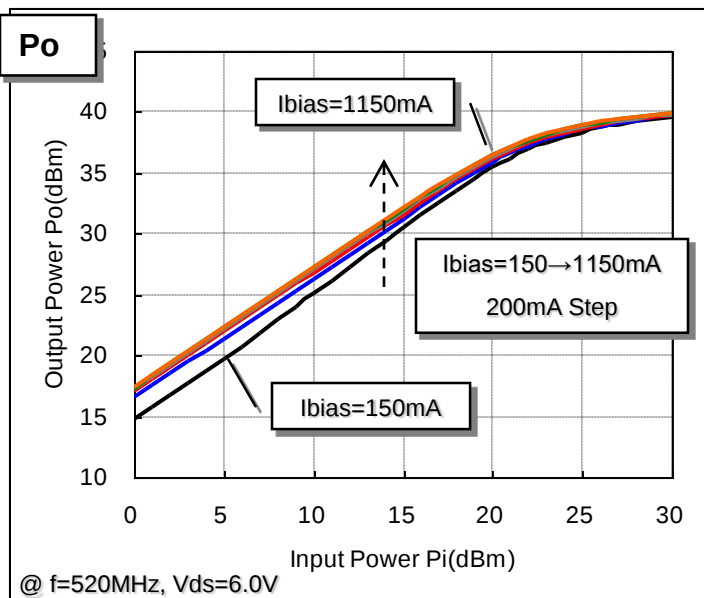
Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=4.8V$, $I_{bias}=1138.1mA$

Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
2.12	4.8	1138.1	520	0.0	1.0	17.0	0.050	17.0	1138	0.9
2.12	4.8	1138.1	520	1.0	1.3	18.0	0.063	17.0	1136	1.1
2.12	4.8	1138.1	520	2.0	1.6	19.0	0.079	17.0	1139	1.4
2.12	4.8	1138.1	520	3.0	2.0	20.0	0.099	17.0	1138	1.8
2.12	4.8	1138.1	520	4.0	2.5	21.0	0.125	17.0	1142	2.3
2.12	4.8	1138.1	520	5.0	3.2	22.0	0.157	17.0	1144	2.9
2.12	4.8	1138.1	520	6.0	4.0	23.0	0.198	17.0	1146	3.6
2.12	4.8	1138.1	520	7.0	5.0	24.0	0.248	17.0	1147	4.5
2.12	4.8	1138.1	520	8.0	6.3	24.9	0.312	16.9	1152	5.6
2.12	4.8	1138.1	520	9.0	7.9	25.9	0.392	16.9	1157	7.1
2.12	4.8	1138.1	520	10.0	10.0	26.9	0.492	16.9	1160	8.8
2.12	4.8	1138.1	520	11.0	12.6	27.9	0.618	16.9	1174	11.0
2.12	4.8	1138.1	520	12.0	15.8	28.9	0.767	16.9	1184	13.5
2.12	4.8	1138.1	520	13.0	20.0	29.8	0.959	16.8	1201	16.6
2.12	4.8	1138.1	520	14.0	25.1	30.8	1.199	16.8	1222	20.4
2.12	4.8	1138.1	520	15.0	31.6	31.7	1.479	16.7	1255	24.6
2.12	4.8	1138.1	520	16.0	39.8	32.6	1.820	16.6	1312	28.9
2.12	4.8	1138.1	520	17.0	50.1	33.5	2.223	16.5	1385	33.4
2.12	4.8	1138.1	520	18.0	63.1	34.3	2.673	16.3	1471	37.9
2.12	4.8	1138.1	520	19.0	79.4	35.0	3.155	16.0	1564	42.0
2.12	4.8	1138.1	520	20.0	100.0	35.6	3.631	15.6	1648	45.9
2.12	4.8	1138.1	520	21.0	125.9	36.1	4.093	15.1	1727	49.4
2.12	4.8	1138.1	520	22.0	158.5	36.6	4.529	14.6	1799	52.4
2.12	4.8	1138.1	520	23.0	199.5	36.9	4.898	13.9	1861	54.8
2.12	4.8	1138.1	520	24.0	251.2	37.2	5.224	13.2	1913	56.9
2.12	4.8	1138.1	520	25.0	316.2	37.4	5.508	12.4	1959	58.6
2.12	4.8	1138.1	520	26.0	398.1	37.6	5.754	11.6	1999	60.0
2.12	4.8	1138.1	520	27.0	501.2	37.8	5.984	10.8	2037	61.2
2.12	4.8	1138.1	520	28.0	631.0	37.9	6.180	9.9	2069	62.2
2.12	4.8	1138.1	520	29.0	794.3	38.0	6.368	9.0	2098	63.2
2.12	4.8	1138.1	520	30.0	1000.0	38.2	6.531	8.2	2125	64.0

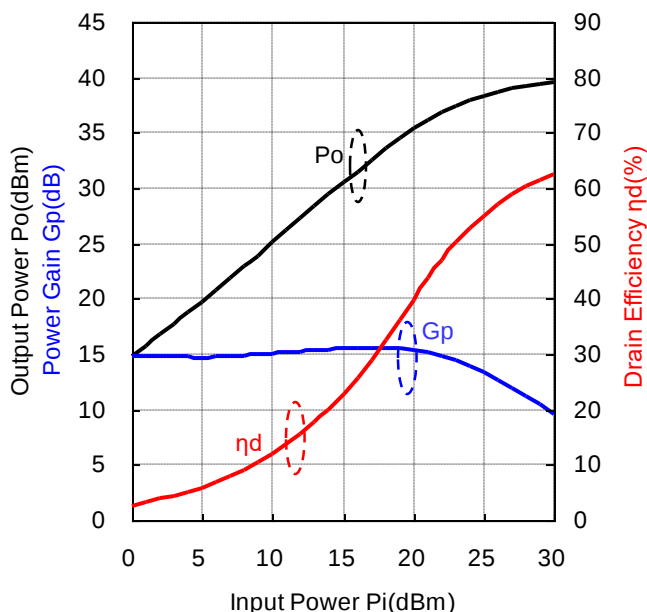
Input - Output Characteristics $V_{ds}=6.0V$ - Condition



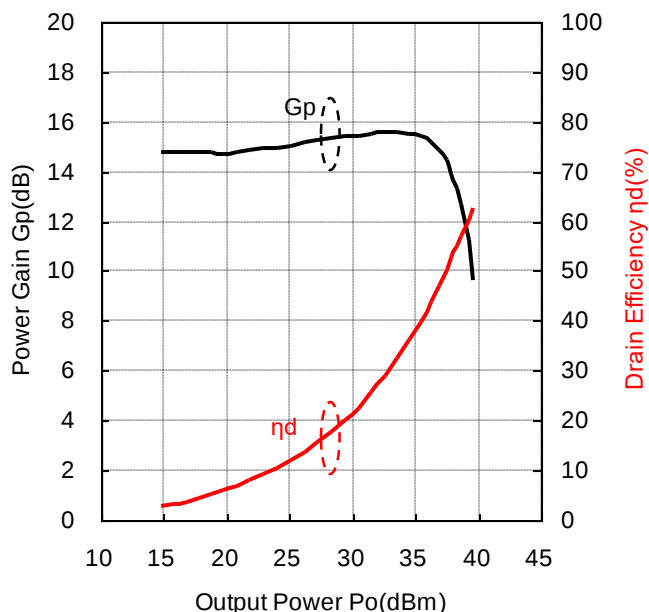
Input-Output Characteristics $V_{ds}=6.0V$, $I_{bias}=150mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=151.2mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=151.2mA$

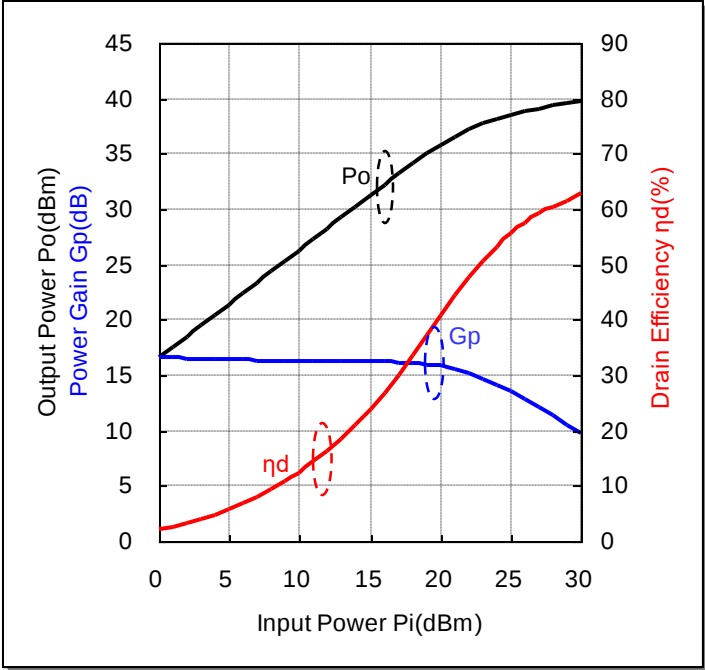
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.55	6.0	151.2	520	0.0	1.0	14.8	0.030	14.8	186	2.7
1.55	6.0	151.2	520	1.0	1.3	15.8	0.038	14.8	197	3.2
1.55	6.0	151.2	520	2.0	1.6	16.8	0.048	14.8	208	3.8
1.55	6.0	151.2	520	3.0	2.0	17.7	0.059	14.7	222	4.5
1.55	6.0	151.2	520	4.0	2.5	18.8	0.075	14.8	242	5.2
1.55	6.0	151.2	520	5.0	3.2	19.7	0.094	14.7	262	6.0
1.55	6.0	151.2	520	6.0	4.0	20.8	0.119	14.8	288	6.9
1.55	6.0	151.2	520	7.0	5.0	21.8	0.152	14.8	320	7.9
1.55	6.0	151.2	520	8.0	6.3	22.9	0.195	14.9	357	9.1
1.55	6.0	151.2	520	9.0	7.9	23.9	0.248	14.9	397	10.4
1.55	6.0	151.2	520	10.0	10.0	25.0	0.320	15.0	448	11.9
1.55	6.0	151.2	520	11.0	12.6	26.1	0.412	15.1	505	13.6
1.55	6.0	151.2	520	12.0	15.8	27.3	0.531	15.3	569	15.5
1.55	6.0	151.2	520	13.0	20.0	28.4	0.684	15.4	644	17.7
1.55	6.0	151.2	520	14.0	25.1	29.4	0.869	15.4	724	20.0
1.55	6.0	151.2	520	15.0	31.6	30.5	1.112	15.5	818	22.6
1.55	6.0	151.2	520	16.0	39.8	31.5	1.422	15.5	925	25.6
1.55	6.0	151.2	520	17.0	50.1	32.5	1.799	15.5	1039	28.9
1.55	6.0	151.2	520	18.0	63.1	33.6	2.275	15.6	1169	32.4
1.55	6.0	151.2	520	19.0	79.4	34.5	2.831	15.5	1305	36.2
1.55	6.0	151.2	520	20.0	100.0	35.4	3.467	15.4	1448	39.9
1.55	6.0	151.2	520	21.0	125.9	36.2	4.159	15.2	1590	43.6
1.55	6.0	151.2	520	22.0	158.5	36.9	4.864	14.9	1725	47.0
1.55	6.0	151.2	520	23.0	199.5	37.5	5.559	14.5	1850	50.1
1.55	6.0	151.2	520	24.0	251.2	37.9	6.194	13.9	1961	52.6
1.55	6.0	151.2	520	25.0	316.2	38.3	6.823	13.3	2067	55.0
1.55	6.0	151.2	520	26.0	398.1	38.7	7.379	12.7	2157	57.0
1.55	6.0	151.2	520	27.0	501.2	39.0	7.907	12.0	2241	58.8
1.55	6.0	151.2	520	28.0	631.0	39.2	8.356	11.2	2314	60.2
1.55	6.0	151.2	520	29.0	794.3	39.4	8.770	10.4	2379	61.5
1.55	6.0	151.2	520	30.0	1000.0	39.6	9.141	9.6	2437	62.5

Input-Output Characteristics $V_{ds}=6.0V$, $I_{bias}=350mA$ - Condition

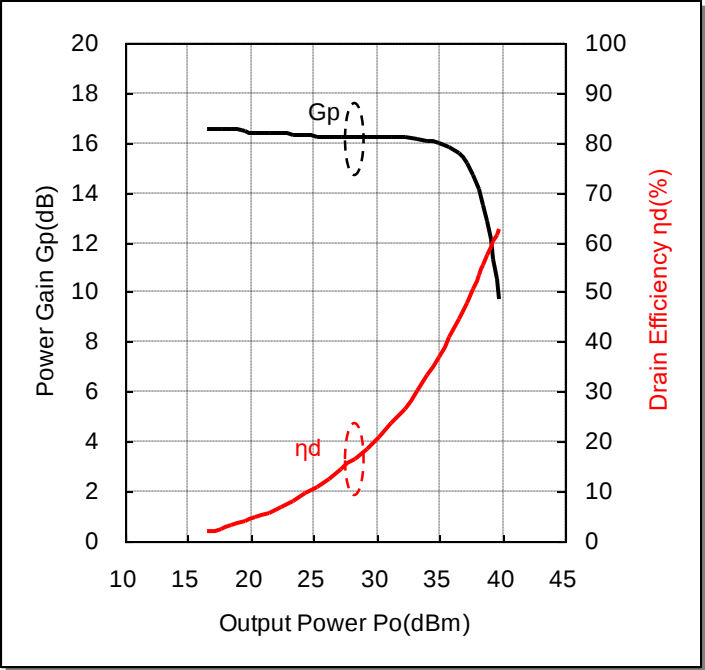
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=344.0mA$

Power Gain, Drain Efficiency vs Output Power



@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=344.0mA$

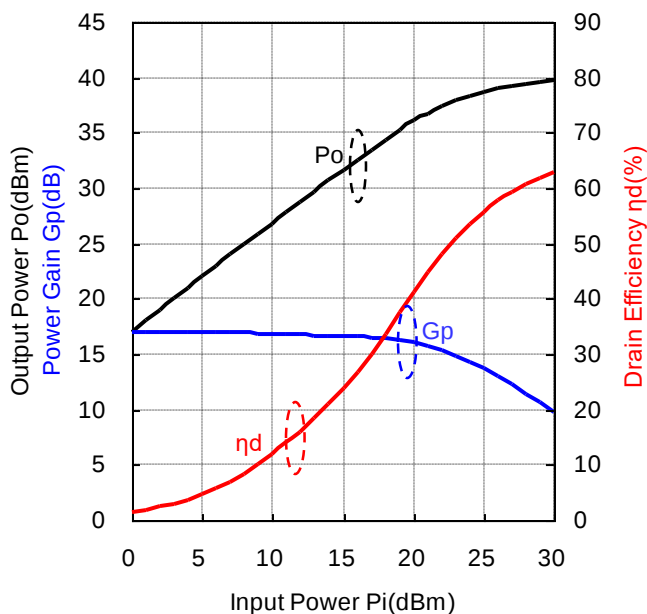
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.70	6.0	344.0	520	0.0	1.0	16.6	0.045	16.6	360	2.1
1.70	6.0	344.0	520	1.0	1.3	17.6	0.057	16.6	366	2.6
1.70	6.0	344.0	520	2.0	1.6	18.5	0.071	16.5	371	3.2
1.70	6.0	344.0	520	3.0	2.0	19.5	0.089	16.5	380	3.9
1.70	6.0	344.0	520	4.0	2.5	20.4	0.110	16.4	389	4.7
1.70	6.0	344.0	520	5.0	3.2	21.4	0.138	16.4	403	5.7
1.70	6.0	344.0	520	6.0	4.0	22.4	0.174	16.4	421	6.9
1.70	6.0	344.0	520	7.0	5.0	23.3	0.214	16.3	445	8.0
1.70	6.0	344.0	520	8.0	6.3	24.3	0.270	16.3	476	9.5
1.70	6.0	344.0	520	9.0	7.9	25.3	0.336	16.3	514	10.9
1.70	6.0	344.0	520	10.0	10.0	26.2	0.420	16.2	561	12.5
1.70	6.0	344.0	520	11.0	12.6	27.3	0.532	16.3	618	14.4
1.70	6.0	344.0	520	12.0	15.8	28.2	0.665	16.2	680	16.3
1.70	6.0	344.0	520	13.0	20.0	29.2	0.836	16.2	752	18.5
1.70	6.0	344.0	520	14.0	25.1	30.2	1.057	16.2	839	21.0
1.70	6.0	344.0	520	15.0	31.6	31.2	1.324	16.2	932	23.7
1.70	6.0	344.0	520	16.0	39.8	32.2	1.660	16.2	1038	26.6
1.70	6.0	344.0	520	17.0	50.1	33.2	2.075	16.2	1154	30.0
1.70	6.0	344.0	520	18.0	63.1	34.1	2.570	16.1	1280	33.5
1.70	6.0	344.0	520	19.0	79.4	35.0	3.148	16.0	1413	37.1
1.70	6.0	344.0	520	20.0	100.0	35.8	3.819	15.8	1557	40.9
1.70	6.0	344.0	520	21.0	125.9	36.5	4.519	15.5	1694	44.4
1.70	6.0	344.0	520	22.0	158.5	37.2	5.212	15.2	1821	47.7
1.70	6.0	344.0	520	23.0	199.5	37.7	5.888	14.7	1937	50.7
1.70	6.0	344.0	520	24.0	251.2	38.2	6.531	14.2	2045	53.2
1.70	6.0	344.0	520	25.0	316.2	38.5	7.129	13.5	2139	55.6
1.70	6.0	344.0	520	26.0	398.1	38.8	7.638	12.8	2221	57.3
1.70	6.0	344.0	520	27.0	501.2	39.1	8.147	12.1	2297	59.1
1.70	6.0	344.0	520	28.0	631.0	39.3	8.570	11.3	2364	60.4
1.70	6.0	344.0	520	29.0	794.3	39.5	8.954	10.5	2424	61.6
1.70	6.0	344.0	520	30.0	1000.0	39.7	9.333	9.7	2480	62.7

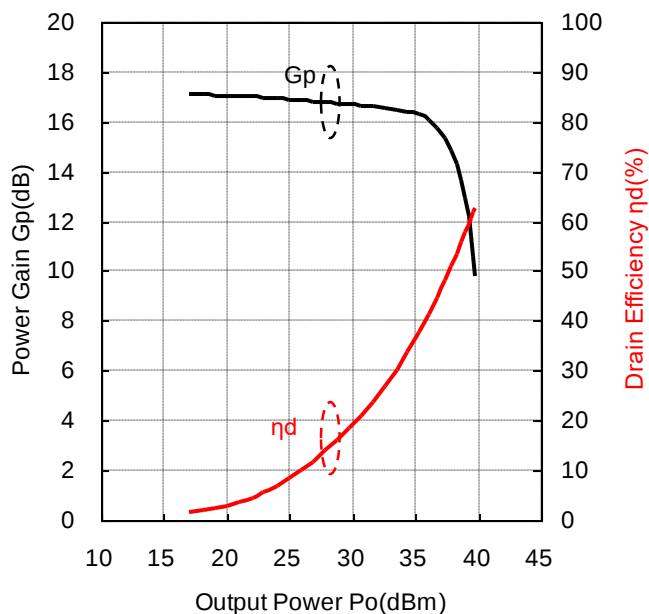
Input-Output Characteristics $V_{ds}=6.0V$, $I_{bias}=550mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=546.2mA$,

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=546.2mA$

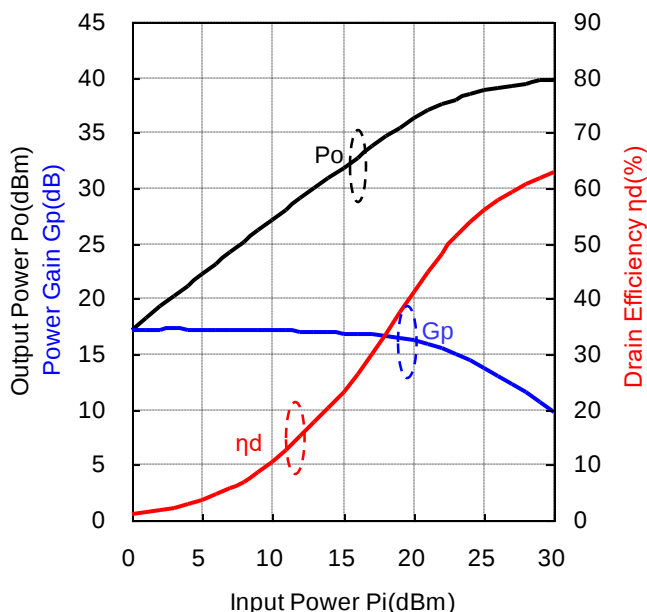
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.81	6.0	546.2	520	0.0	1.0	17.1	0.051	17.1	555	1.5
1.81	6.0	546.2	520	1.0	1.3	18.1	0.064	17.1	558	1.9
1.81	6.0	546.2	520	2.0	1.6	19.0	0.080	17.0	562	2.4
1.81	6.0	546.2	520	3.0	2.0	20.0	0.100	17.0	565	3.0
1.81	6.0	546.2	520	4.0	2.5	21.0	0.127	17.0	573	3.7
1.81	6.0	546.2	520	5.0	3.2	22.0	0.159	17.0	578	4.6
1.81	6.0	546.2	520	6.0	4.0	23.0	0.198	17.0	587	5.6
1.81	6.0	546.2	520	7.0	5.0	24.0	0.249	17.0	599	6.9
1.81	6.0	546.2	520	8.0	6.3	24.9	0.309	16.9	621	8.3
1.81	6.0	546.2	520	9.0	7.9	25.9	0.388	16.9	645	10.0
1.81	6.0	546.2	520	10.0	10.0	26.8	0.479	16.8	675	11.8
1.81	6.0	546.2	520	11.0	12.6	27.8	0.603	16.8	721	13.9
1.81	6.0	546.2	520	12.0	15.8	28.7	0.745	16.7	777	16.0
1.81	6.0	546.2	520	13.0	20.0	29.7	0.931	16.7	845	18.4
1.81	6.0	546.2	520	14.0	25.1	30.6	1.161	16.6	924	20.9
1.81	6.0	546.2	520	15.0	31.6	31.6	1.445	16.6	1016	23.7
1.81	6.0	546.2	520	16.0	39.8	32.6	1.811	16.6	1123	26.9
1.81	6.0	546.2	520	17.0	50.1	33.5	2.234	16.5	1235	30.1
1.81	6.0	546.2	520	18.0	63.1	34.4	2.767	16.4	1365	33.8
1.81	6.0	546.2	520	19.0	79.4	35.3	3.381	16.3	1500	37.6
1.81	6.0	546.2	520	20.0	100.0	36.1	4.055	16.1	1638	41.3
1.81	6.0	546.2	520	21.0	125.9	36.8	4.753	15.8	1770	44.7
1.81	6.0	546.2	520	22.0	158.5	37.4	5.470	15.4	1895	48.1
1.81	6.0	546.2	520	23.0	199.5	37.9	6.152	14.9	2009	51.0
1.81	6.0	546.2	520	24.0	251.2	38.3	6.776	14.3	2108	53.6
1.81	6.0	546.2	520	25.0	316.2	38.7	7.345	13.7	2194	55.8
1.81	6.0	546.2	520	26.0	398.1	39.0	7.870	13.0	2274	57.7
1.81	6.0	546.2	520	27.0	501.2	39.2	8.337	12.2	2343	59.3
1.81	6.0	546.2	520	28.0	631.0	39.4	8.750	11.4	2404	60.7
1.81	6.0	546.2	520	29.0	794.3	39.6	9.141	10.6	2462	61.9
1.81	6.0	546.2	520	30.0	1000.0	39.8	9.462	9.8	2511	62.8

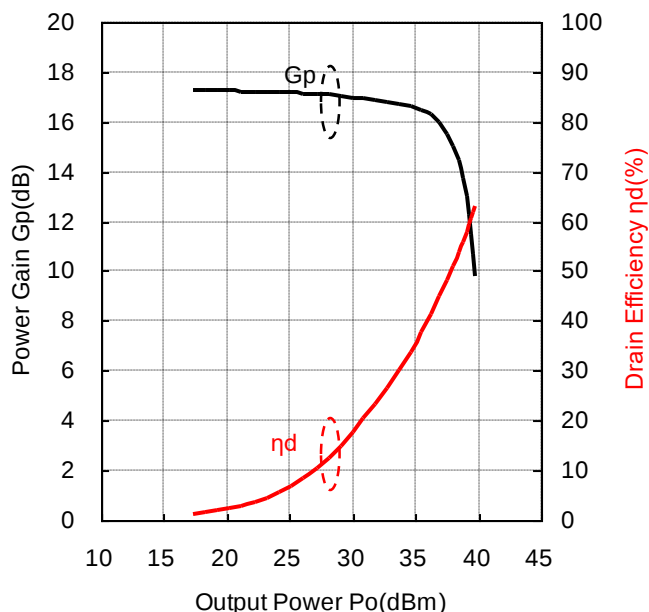
Input-Output Characteristics $V_{ds}=6.0V$, $I_{bias}=750mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=742.0mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=742.0mA$

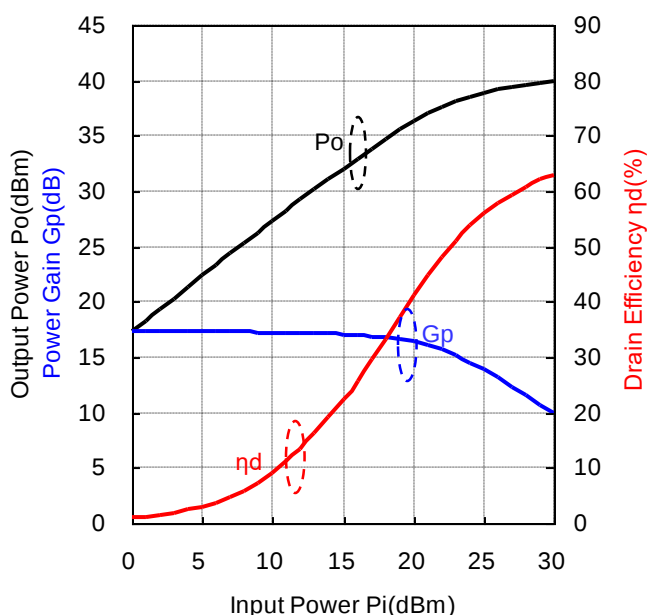
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.91	6.0	742.0	520	0.0	1.0	17.3	0.053	17.3	750	1.2
1.91	6.0	742.0	520	1.0	1.3	18.3	0.067	17.3	751	1.5
1.91	6.0	742.0	520	2.0	1.6	19.3	0.084	17.3	754	1.9
1.91	6.0	742.0	520	3.0	2.0	20.3	0.106	17.3	755	2.3
1.91	6.0	742.0	520	4.0	2.5	21.2	0.132	17.2	759	2.9
1.91	6.0	742.0	520	5.0	3.2	22.2	0.166	17.2	761	3.6
1.91	6.0	742.0	520	6.0	4.0	23.2	0.209	17.2	771	4.5
1.91	6.0	742.0	520	7.0	5.0	24.2	0.262	17.2	775	5.6
1.91	6.0	742.0	520	8.0	6.3	25.2	0.330	17.2	786	7.0
1.91	6.0	742.0	520	9.0	7.9	26.1	0.410	17.1	800	8.5
1.91	6.0	742.0	520	10.0	10.0	27.1	0.515	17.1	820	10.5
1.91	6.0	742.0	520	11.0	12.6	28.1	0.643	17.1	847	12.6
1.91	6.0	742.0	520	12.0	15.8	29.0	0.800	17.0	889	15.0
1.91	6.0	742.0	520	13.0	20.0	30.0	0.995	17.0	942	17.6
1.91	6.0	742.0	520	14.0	25.1	30.9	1.233	16.9	1011	20.3
1.91	6.0	742.0	520	15.0	31.6	31.8	1.528	16.8	1095	23.3
1.91	6.0	742.0	520	16.0	39.8	32.8	1.905	16.8	1197	26.5
1.91	6.0	742.0	520	17.0	50.1	33.7	2.360	16.7	1310	30.0
1.91	6.0	742.0	520	18.0	63.1	34.6	2.897	16.6	1434	33.7
1.91	6.0	742.0	520	19.0	79.4	35.5	3.548	16.5	1574	37.6
1.91	6.0	742.0	520	20.0	100.0	36.3	4.246	16.3	1710	41.4
1.91	6.0	742.0	520	21.0	125.9	37.0	4.966	16.0	1841	45.0
1.91	6.0	742.0	520	22.0	158.5	37.5	5.662	15.5	1959	48.2
1.91	6.0	742.0	520	23.0	199.5	38.0	6.339	15.0	2065	51.2
1.91	6.0	742.0	520	24.0	251.2	38.4	6.966	14.4	2160	53.8
1.91	6.0	742.0	520	25.0	316.2	38.8	7.534	13.8	2244	55.9
1.91	6.0	742.0	520	26.0	398.1	39.0	8.035	13.0	2317	57.8
1.91	6.0	742.0	520	27.0	501.2	39.3	8.472	12.3	2381	59.3
1.91	6.0	742.0	520	28.0	631.0	39.5	8.872	11.5	2439	60.6
1.91	6.0	742.0	520	29.0	794.3	39.7	9.268	10.7	2493	62.0
1.91	6.0	742.0	520	30.0	1000.0	39.8	9.572	9.8	2538	62.9

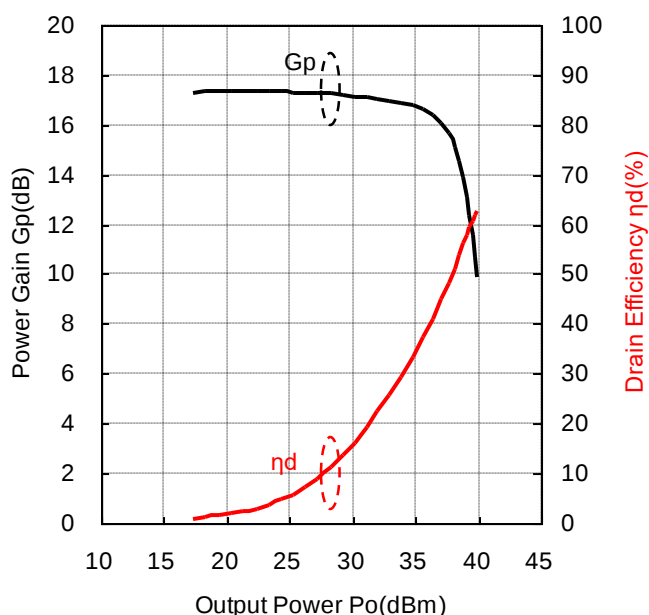
Input-Output Characteristics $V_{ds}=6.0V$, $I_{bias}=950mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=933.1mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=933.1mA$

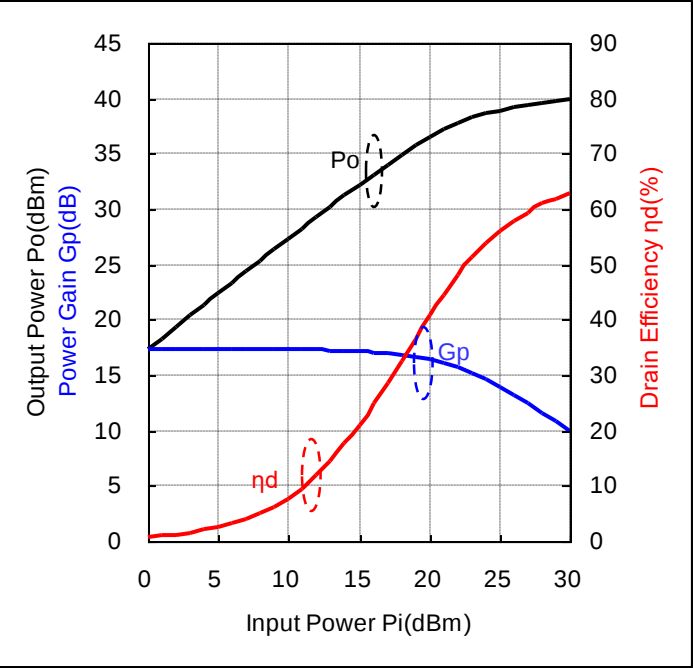
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
2.00	6.0	933.1	520	0.0	1.0	17.3	0.053	17.3	940	0.9
2.00	6.0	933.1	520	1.0	1.3	18.3	0.068	17.3	936	1.2
2.00	6.0	933.1	520	2.0	1.6	19.3	0.086	17.3	942	1.5
2.00	6.0	933.1	520	3.0	2.0	20.3	0.108	17.3	944	1.9
2.00	6.0	933.1	520	4.0	2.5	21.3	0.136	17.3	947	2.4
2.00	6.0	933.1	520	5.0	3.2	22.3	0.171	17.3	947	3.0
2.00	6.0	933.1	520	6.0	4.0	23.3	0.215	17.3	956	3.7
2.00	6.0	933.1	520	7.0	5.0	24.3	0.270	17.3	955	4.7
2.00	6.0	933.1	520	8.0	6.3	25.3	0.336	17.3	964	5.8
2.00	6.0	933.1	520	9.0	7.9	26.3	0.422	17.3	975	7.2
2.00	6.0	933.1	520	10.0	10.0	27.3	0.531	17.3	985	9.0
2.00	6.0	933.1	520	11.0	12.6	28.2	0.667	17.2	1006	11.0
2.00	6.0	933.1	520	12.0	15.8	29.2	0.830	17.2	1027	13.5
2.00	6.0	933.1	520	13.0	20.0	30.1	1.030	17.1	1060	16.2
2.00	6.0	933.1	520	14.0	25.1	31.1	1.291	17.1	1113	19.3
2.00	6.0	933.1	520	15.0	31.6	32.0	1.589	17.0	1181	22.4
2.00	6.0	933.1	520	16.0	39.8	32.9	1.968	16.9	1270	25.8
2.00	6.0	933.1	520	17.0	50.1	33.9	2.438	16.9	1379	29.5
2.00	6.0	933.1	520	18.0	63.1	34.8	2.985	16.8	1499	33.2
2.00	6.0	933.1	520	19.0	79.4	35.7	3.673	16.7	1637	37.4
2.00	6.0	933.1	520	20.0	100.0	36.4	4.355	16.4	1767	41.1
2.00	6.0	933.1	520	21.0	125.9	37.1	5.117	16.1	1900	44.9
2.00	6.0	933.1	520	22.0	158.5	37.6	5.808	15.6	2012	48.1
2.00	6.0	933.1	520	23.0	199.5	38.1	6.486	15.1	2114	51.1
2.00	6.0	933.1	520	24.0	251.2	38.5	7.112	14.5	2205	53.8
2.00	6.0	933.1	520	25.0	316.2	38.9	7.691	13.9	2286	56.1
2.00	6.0	933.1	520	26.0	398.1	39.1	8.185	13.1	2354	57.9
2.00	6.0	933.1	520	27.0	501.2	39.3	8.610	12.3	2414	59.4
2.00	6.0	933.1	520	28.0	631.0	39.5	9.016	11.5	2471	60.8
2.00	6.0	933.1	520	29.0	794.3	39.7	9.376	10.7	2520	62.0
2.00	6.0	933.1	520	30.0	1000.0	39.8	9.661	9.8	2562	62.8

Input-Output Characteristics $V_{ds}=6.0V$, $I_{bias}=1150mA$ - Condition

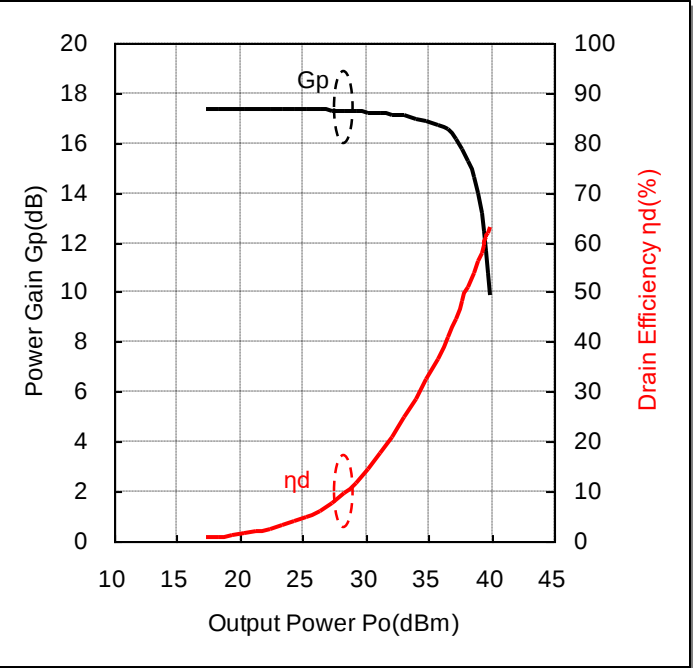
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=1132.5mA$

Power Gain, Drain Efficiency vs Output Power

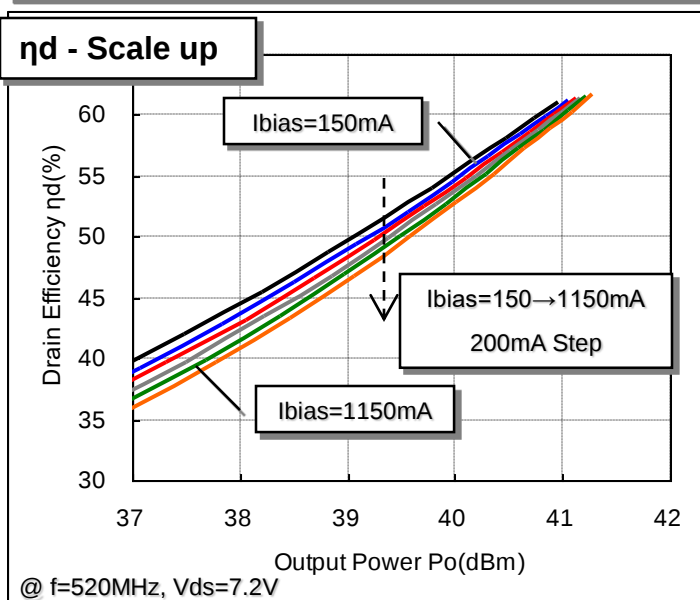
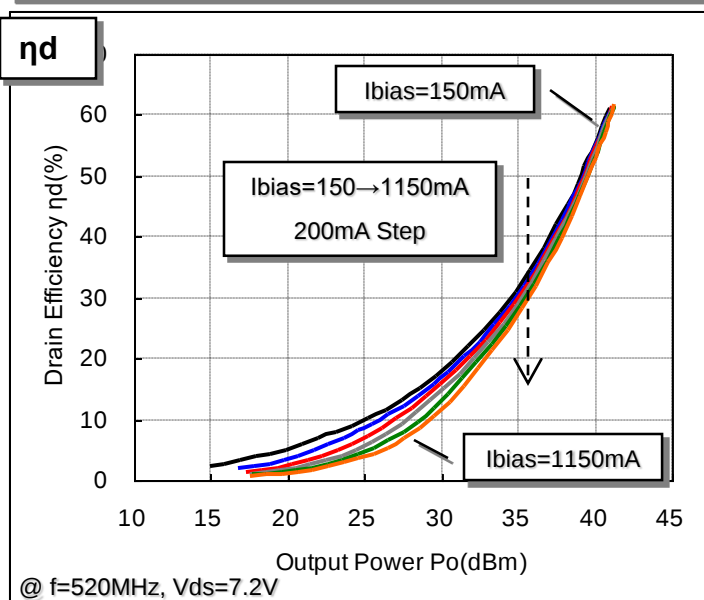
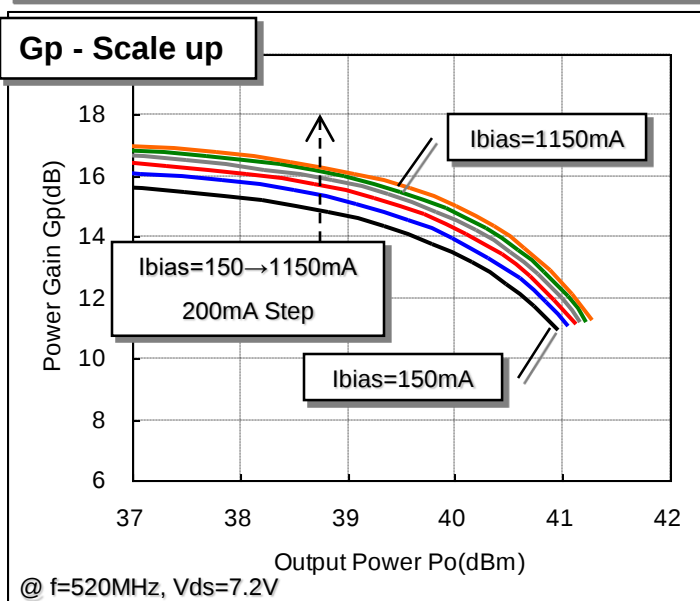
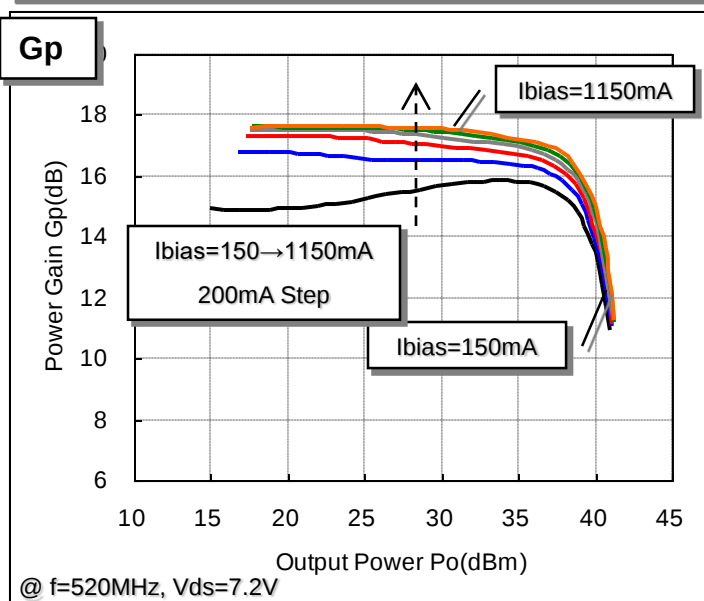
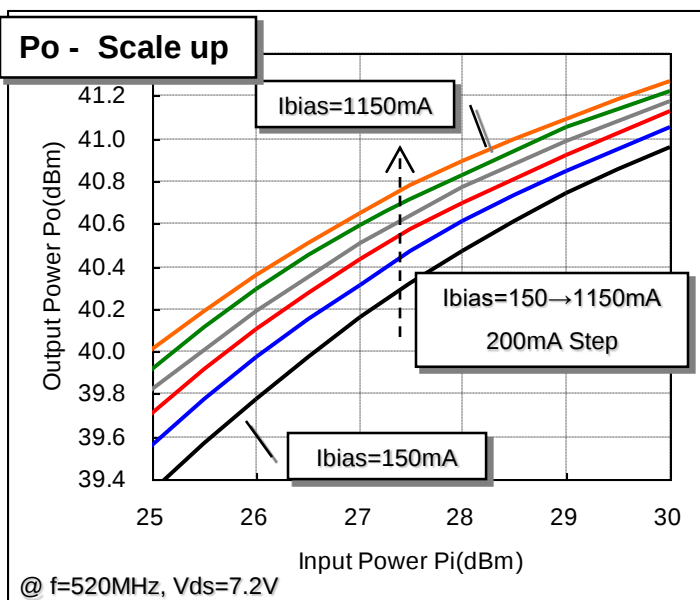
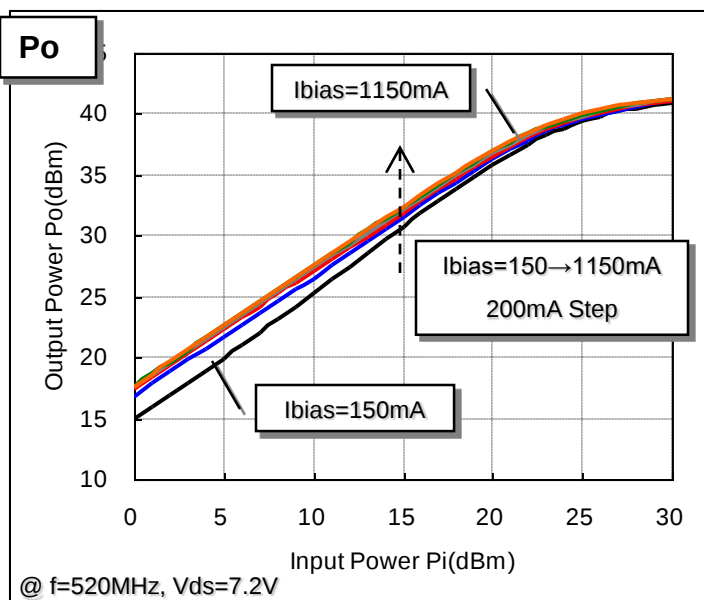


@ $f=520MHz$, $V_{ds}=6.0V$, $I_{bias}=1132.5mA$

Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
2.09	6.0	1132.5	520	0.0	1.0	17.3	0.054	17.3	1134	0.8
2.09	6.0	1132.5	520	1.0	1.3	18.3	0.068	17.3	1140	1.0
2.09	6.0	1132.5	520	2.0	1.6	19.3	0.086	17.3	1138	1.3
2.09	6.0	1132.5	520	3.0	2.0	20.4	0.108	17.4	1142	1.6
2.09	6.0	1132.5	520	4.0	2.5	21.4	0.136	17.4	1143	2.0
2.09	6.0	1132.5	520	5.0	3.2	22.3	0.171	17.3	1142	2.5
2.09	6.0	1132.5	520	6.0	4.0	23.3	0.215	17.3	1146	3.1
2.09	6.0	1132.5	520	7.0	5.0	24.3	0.271	17.3	1147	3.9
2.09	6.0	1132.5	520	8.0	6.3	25.3	0.340	17.3	1155	4.9
2.09	6.0	1132.5	520	9.0	7.9	26.3	0.429	17.3	1160	6.2
2.09	6.0	1132.5	520	10.0	10.0	27.3	0.533	17.3	1171	7.6
2.09	6.0	1132.5	520	11.0	12.6	28.3	0.673	17.3	1183	9.5
2.09	6.0	1132.5	520	12.0	15.8	29.3	0.845	17.3	1197	11.8
2.09	6.0	1132.5	520	13.0	20.0	30.2	1.052	17.2	1218	14.4
2.09	6.0	1132.5	520	14.0	25.1	31.2	1.315	17.2	1249	17.5
2.09	6.0	1132.5	520	15.0	31.6	32.1	1.629	17.1	1294	21.0
2.09	6.0	1132.5	520	16.0	39.8	33.1	2.028	17.1	1364	24.8
2.09	6.0	1132.5	520	17.0	50.1	34.0	2.500	17.0	1458	28.6
2.09	6.0	1132.5	520	18.0	63.1	34.9	3.069	16.9	1571	32.6
2.09	6.0	1132.5	520	19.0	79.4	35.7	3.724	16.7	1696	36.6
2.09	6.0	1132.5	520	20.0	100.0	36.5	4.477	16.5	1830	40.8
2.09	6.0	1132.5	520	21.0	125.9	37.2	5.212	16.2	1953	44.5
2.09	6.0	1132.5	520	22.0	158.5	37.8	5.957	15.8	2065	48.1
2.09	6.0	1132.5	520	23.0	199.5	38.2	6.653	15.2	2167	51.2
2.09	6.0	1132.5	520	24.0	251.2	38.6	7.278	14.6	2255	53.8
2.09	6.0	1132.5	520	25.0	316.2	38.9	7.834	13.9	2327	56.1
2.09	6.0	1132.5	520	26.0	398.1	39.2	8.318	13.2	2392	58.0
2.09	6.0	1132.5	520	27.0	501.2	39.4	8.730	12.4	2448	59.4
2.09	6.0	1132.5	520	28.0	631.0	39.6	9.141	11.6	2501	60.9
2.09	6.0	1132.5	520	29.0	794.3	39.8	9.462	10.8	2546	61.9
2.09	6.0	1132.5	520	30.0	1000.0	39.9	9.772	9.9	2586	63.0

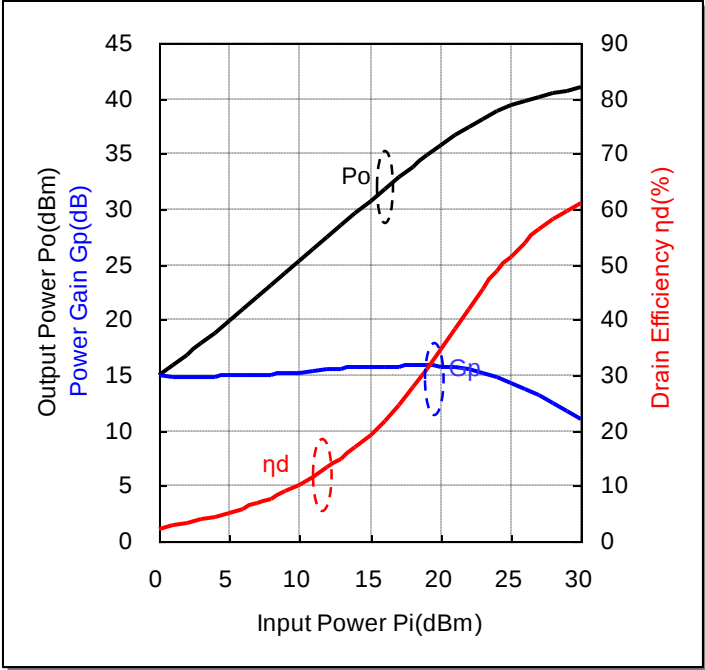
Input - Output Characteristics $V_{ds}=7.2V$ - Condition



Input-Output Characteristics $V_{ds}=7.2V$, $I_{bias}=150mA$ - Condition

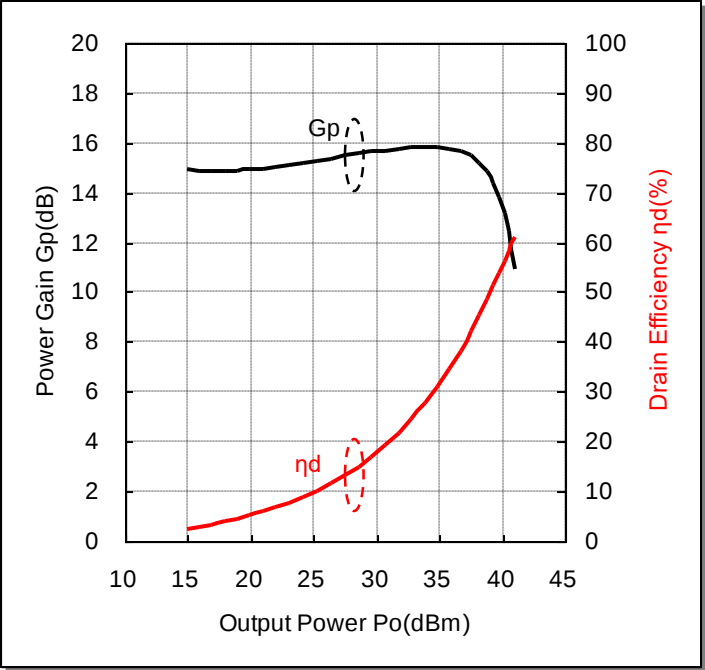
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=7.2V$, $I_{bias}=147.7mA$

Power Gain, Drain Efficiency vs Output Power



@ $f=520MHz$, $V_{ds}=7.2V$, $I_{bias}=147.7mA$

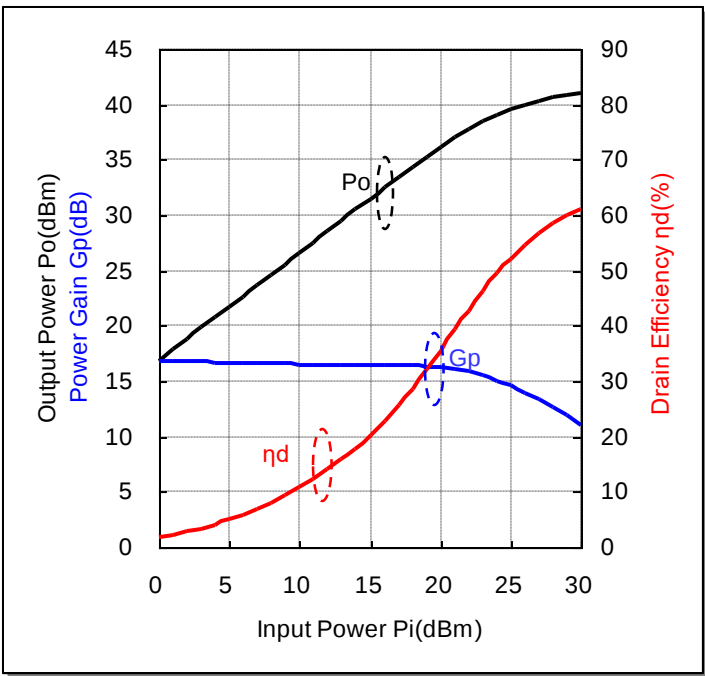
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	η_d (%)
1.53	7.2	147.7	520	0.0	1.0	14.9	0.031	14.9	186	2.3
1.53	7.2	147.7	520	1.0	1.3	15.9	0.039	14.9	195	2.7
1.53	7.2	147.7	520	2.0	1.6	16.9	0.049	14.9	207	3.3
1.53	7.2	147.7	520	3.0	2.0	17.9	0.061	14.9	223	3.8
1.53	7.2	147.7	520	4.0	2.5	18.9	0.077	14.9	242	4.4
1.53	7.2	147.7	520	5.0	3.2	19.9	0.098	14.9	268	5.1
1.53	7.2	147.7	520	6.0	4.0	20.9	0.124	14.9	294	5.9
1.53	7.2	147.7	520	7.0	5.0	22.0	0.159	15.0	327	6.7
1.53	7.2	147.7	520	8.0	6.3	23.1	0.204	15.1	366	7.7
1.53	7.2	147.7	520	9.0	7.9	24.1	0.260	15.1	408	8.9
1.53	7.2	147.7	520	10.0	10.0	25.3	0.336	15.3	460	10.1
1.53	7.2	147.7	520	11.0	12.6	26.4	0.435	15.4	520	11.6
1.53	7.2	147.7	520	12.0	15.8	27.5	0.561	15.5	589	13.2
1.53	7.2	147.7	520	13.0	20.0	28.5	0.716	15.5	664	15.0
1.53	7.2	147.7	520	14.0	25.1	29.6	0.920	15.6	751	17.0
1.53	7.2	147.7	520	15.0	31.6	30.7	1.175	15.7	846	19.3
1.53	7.2	147.7	520	16.0	39.8	31.8	1.507	15.8	957	21.9
1.53	7.2	147.7	520	17.0	50.1	32.8	1.910	15.8	1078	24.6
1.53	7.2	147.7	520	18.0	63.1	33.8	2.415	15.8	1210	27.7
1.53	7.2	147.7	520	19.0	79.4	34.8	3.034	15.8	1359	31.0
1.53	7.2	147.7	520	20.0	100.0	35.8	3.776	15.8	1517	34.6
1.53	7.2	147.7	520	21.0	125.9	36.7	4.634	15.7	1683	38.2
1.53	7.2	147.7	520	22.0	158.5	37.5	5.610	15.5	1855	42.0
1.53	7.2	147.7	520	23.0	199.5	38.2	6.622	15.2	2021	45.5
1.53	7.2	147.7	520	24.0	251.2	38.8	7.621	14.8	2176	48.7
1.53	7.2	147.7	520	25.0	316.2	39.3	8.590	14.3	2317	51.5
1.53	7.2	147.7	520	26.0	398.1	39.8	9.506	13.8	2446	54.0
1.53	7.2	147.7	520	27.0	501.2	40.2	10.375	13.2	2563	56.2
1.53	7.2	147.7	520	28.0	631.0	40.5	11.143	12.5	2666	58.1
1.53	7.2	147.7	520	29.0	794.3	40.7	11.858	11.7	2760	59.7
1.53	7.2	147.7	520	30.0	1000.0	41.0	12.474	11.0	2841	61.0

Input-Output Characteristics $V_{ds}=7.2V$, $I_{bias}=350mA$ - Condition

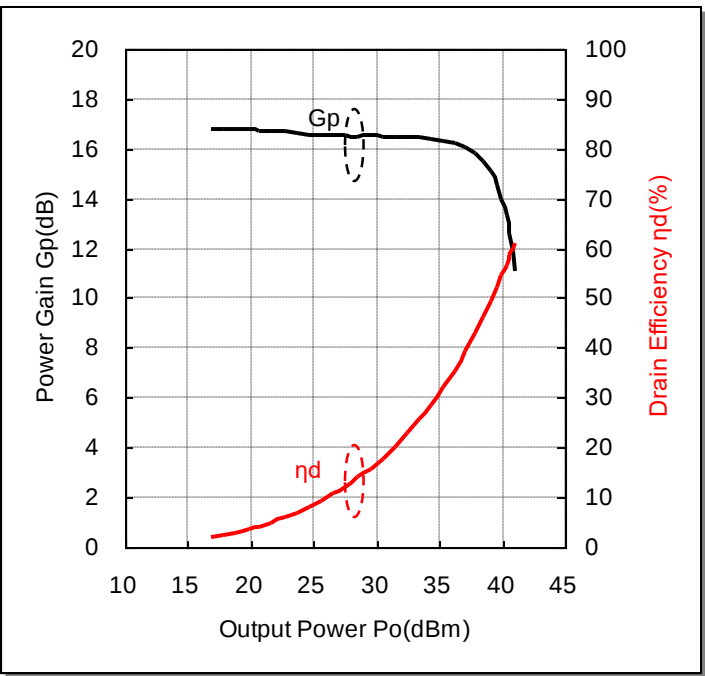
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=7.2V$, $I_{bias}=347.6mA$

Power Gain, Drain Efficiency vs Output Power



@ $f=520MHz$, $V_{ds}=7.2V$, $I_{bias}=347.6mA$

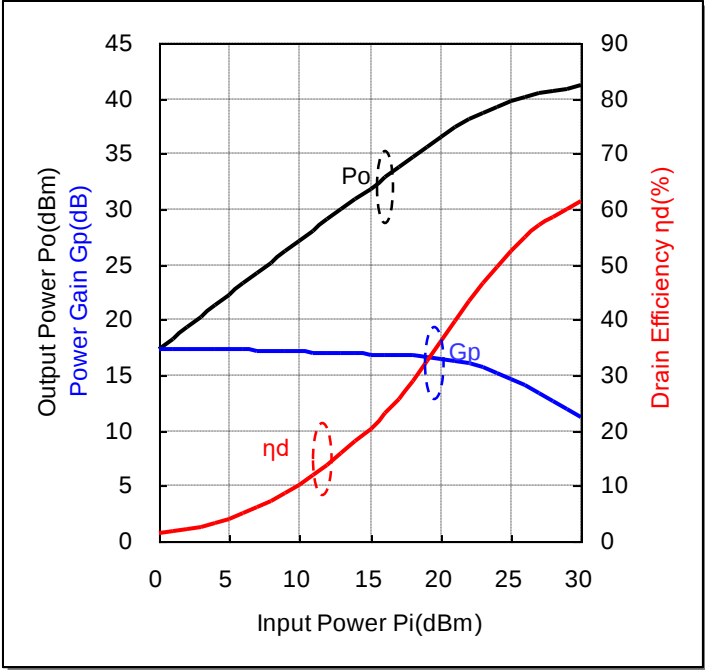
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.67	7.2	347.6	520	0.0	1.0	16.8	0.048	16.8	364	1.8
1.67	7.2	347.6	520	1.0	1.3	17.8	0.060	16.8	372	2.3
1.67	7.2	347.6	520	2.0	1.6	18.8	0.076	16.8	378	2.8
1.67	7.2	347.6	520	3.0	2.0	19.8	0.095	16.8	387	3.4
1.67	7.2	347.6	520	4.0	2.5	20.7	0.117	16.7	398	4.1
1.67	7.2	347.6	520	5.0	3.2	21.7	0.148	16.7	413	5.0
1.67	7.2	347.6	520	6.0	4.0	22.7	0.185	16.7	433	5.9
1.67	7.2	347.6	520	7.0	5.0	23.6	0.231	16.6	460	7.0
1.67	7.2	347.6	520	8.0	6.3	24.6	0.287	16.6	492	8.1
1.67	7.2	347.6	520	9.0	7.9	25.5	0.358	16.5	532	9.4
1.67	7.2	347.6	520	10.0	10.0	26.5	0.448	16.5	581	10.7
1.67	7.2	347.6	520	11.0	12.6	27.5	0.566	16.5	642	12.2
1.67	7.2	347.6	520	12.0	15.8	28.5	0.708	16.5	706	13.9
1.67	7.2	347.6	520	13.0	20.0	29.5	0.895	16.5	785	15.9
1.67	7.2	347.6	520	14.0	25.1	30.5	1.119	16.5	870	17.9
1.67	7.2	347.6	520	15.0	31.6	31.5	1.409	16.5	967	20.2
1.67	7.2	347.6	520	16.0	39.8	32.5	1.762	16.5	1076	22.7
1.67	7.2	347.6	520	17.0	50.1	33.4	2.208	16.4	1199	25.6
1.67	7.2	347.6	520	18.0	63.1	34.4	2.754	16.4	1333	28.7
1.67	7.2	347.6	520	19.0	79.4	35.3	3.412	16.3	1481	32.0
1.67	7.2	347.6	520	20.0	100.0	36.2	4.198	16.2	1641	35.5
1.67	7.2	347.6	520	21.0	125.9	37.1	5.105	16.1	1806	39.3
1.67	7.2	347.6	520	22.0	158.5	37.8	6.081	15.8	1972	42.8
1.67	7.2	347.6	520	23.0	199.5	38.5	7.096	15.5	2132	46.2
1.67	7.2	347.6	520	24.0	251.2	39.1	8.091	15.1	2277	49.4
1.67	7.2	347.6	520	25.0	316.2	39.6	9.036	14.6	2409	52.1
1.67	7.2	347.6	520	26.0	398.1	40.0	9.931	14.0	2531	54.5
1.67	7.2	347.6	520	27.0	501.2	40.3	10.740	13.3	2636	56.6
1.67	7.2	347.6	520	28.0	631.0	40.6	11.508	12.6	2734	58.5
1.67	7.2	347.6	520	29.0	794.3	40.8	12.162	11.8	2817	60.0
1.67	7.2	347.6	520	30.0	1000.0	41.0	12.735	11.0	2893	61.1

Input-Output Characteristics $V_{ds}=7.2V$, $I_{bias}=550mA$ - Condition

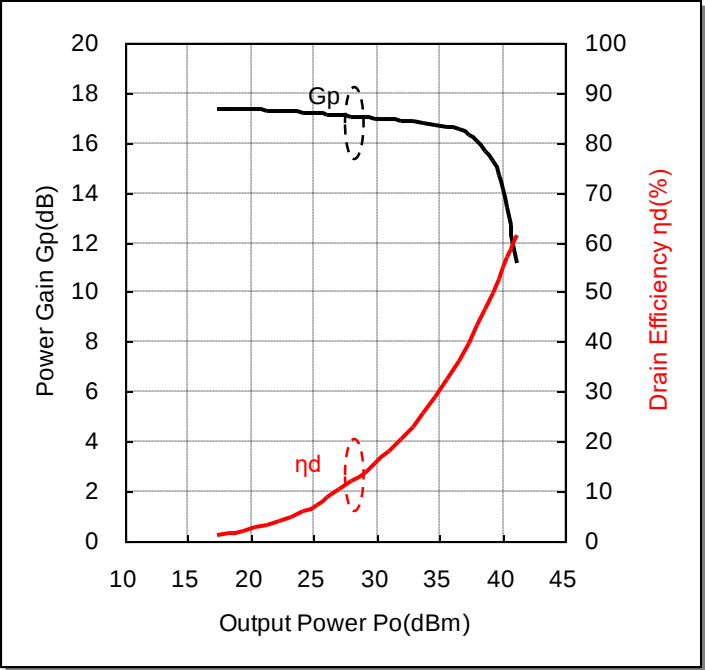
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, $V_{ds}=7.2V$, $I_{bias}=547.4mA$

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, $V_{ds}=7.2V$, $I_{bias}=547.4mA$

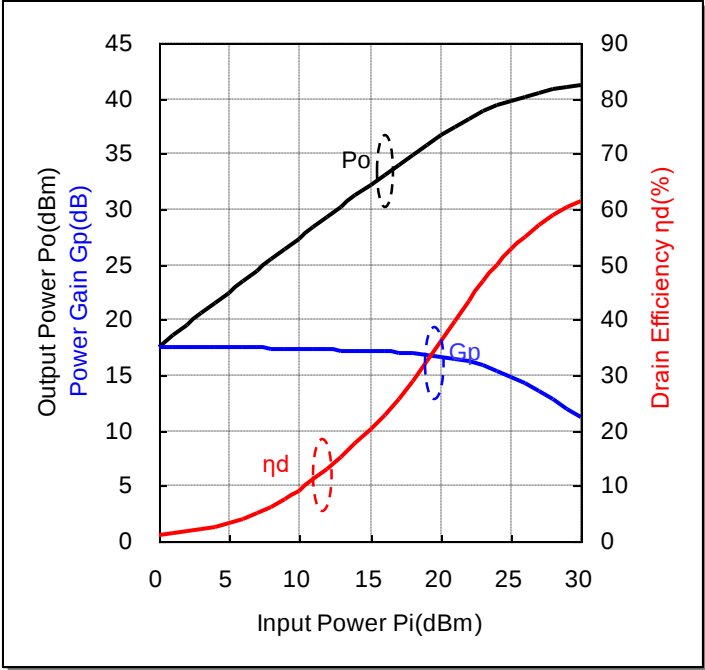
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.78	7.2	547.4	520	0.0	1.0	17.3	0.054	17.3	556	1.4
1.78	7.2	547.4	520	1.0	1.3	18.3	0.068	17.3	560	1.7
1.78	7.2	547.4	520	2.0	1.6	19.3	0.086	17.3	563	2.1
1.78	7.2	547.4	520	3.0	2.0	20.3	0.108	17.3	568	2.6
1.78	7.2	547.4	520	4.0	2.5	21.3	0.135	17.3	574	3.3
1.78	7.2	547.4	520	5.0	3.2	22.3	0.169	17.3	583	4.0
1.78	7.2	547.4	520	6.0	4.0	23.3	0.212	17.3	594	5.0
1.78	7.2	547.4	520	7.0	5.0	24.2	0.264	17.2	608	6.0
1.78	7.2	547.4	520	8.0	6.3	25.2	0.332	17.2	627	7.4
1.78	7.2	547.4	520	9.0	7.9	26.1	0.411	17.1	656	8.7
1.78	7.2	547.4	520	10.0	10.0	27.1	0.513	17.1	692	10.3
1.78	7.2	547.4	520	11.0	12.6	28.0	0.638	17.0	740	12.0
1.78	7.2	547.4	520	12.0	15.8	29.0	0.798	17.0	802	13.8
1.78	7.2	547.4	520	13.0	20.0	30.0	0.991	17.0	873	15.8
1.78	7.2	547.4	520	14.0	25.1	30.9	1.242	16.9	958	18.0
1.78	7.2	547.4	520	15.0	31.6	31.9	1.542	16.9	1053	20.3
1.78	7.2	547.4	520	16.0	39.8	32.9	1.936	16.9	1165	23.1
1.78	7.2	547.4	520	17.0	50.1	33.8	2.388	16.8	1284	25.8
1.78	7.2	547.4	520	18.0	63.1	34.7	2.965	16.7	1421	29.0
1.78	7.2	547.4	520	19.0	79.4	35.6	3.656	16.6	1569	32.4
1.78	7.2	547.4	520	20.0	100.0	36.5	4.477	16.5	1728	36.0
1.78	7.2	547.4	520	21.0	125.9	37.3	5.395	16.3	1891	39.6
1.78	7.2	547.4	520	22.0	158.5	38.1	6.397	16.1	2056	43.2
1.78	7.2	547.4	520	23.0	199.5	38.7	7.413	15.7	2209	46.6
1.78	7.2	547.4	520	24.0	251.2	39.2	8.395	15.2	2348	49.6
1.78	7.2	547.4	520	25.0	316.2	39.7	9.354	14.7	2477	52.4
1.78	7.2	547.4	520	26.0	398.1	40.1	10.233	14.1	2591	54.9
1.78	7.2	547.4	520	27.0	501.2	40.4	11.041	13.4	2693	56.9
1.78	7.2	547.4	520	28.0	631.0	40.7	11.749	12.7	2782	58.7
1.78	7.2	547.4	520	29.0	794.3	40.9	12.359	11.9	2860	60.0
1.78	7.2	547.4	520	30.0	1000.0	41.1	12.972	11.1	2933	61.4

Input-Output Characteristics $V_{ds}=7.2V$, $I_{bias}=750mA$ - Condition

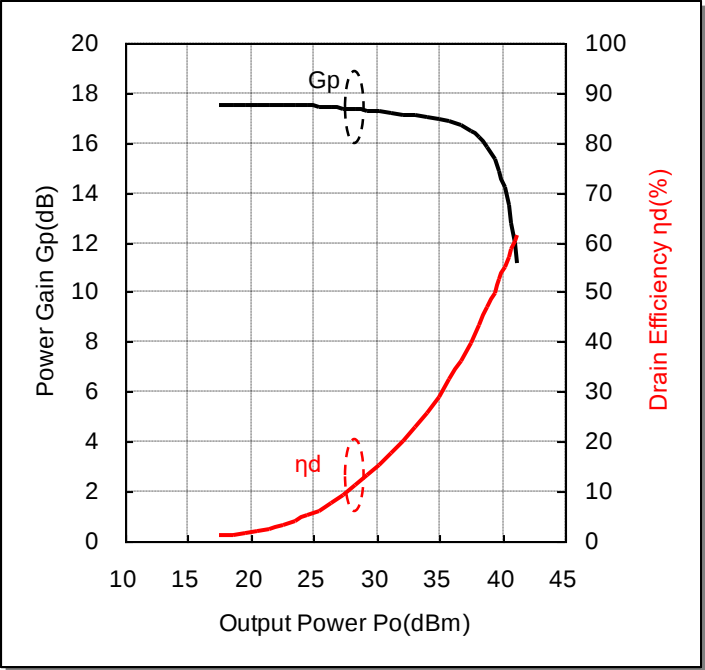
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, $V_{ds}=7.2V$, $I_{bias}=735.9mA$

Power Gain, Drain Efficiency vs Output Power



@ f=520MHz, $V_{ds}=7.2V$, $I_{bias}=735.9mA$

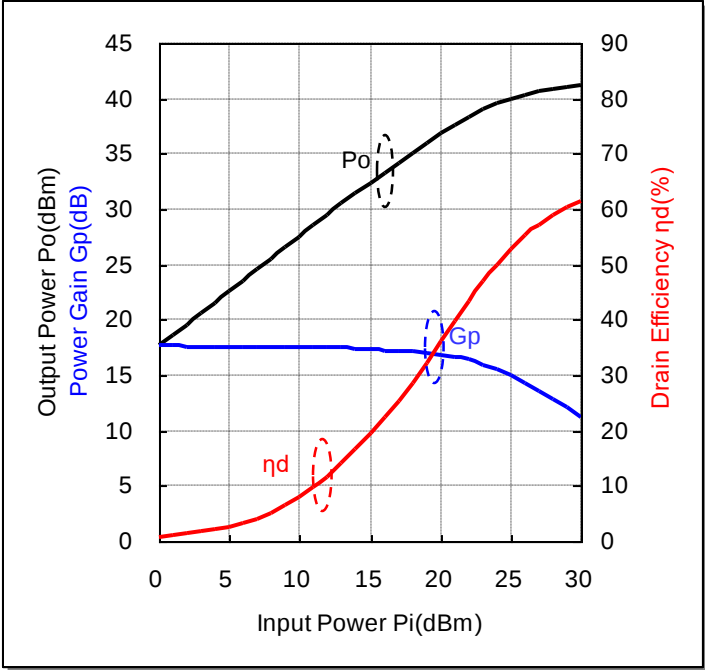
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	I _{ds} (mA)	η _d (%)
1.88	7.2	735.9	520	0.0	1.0	17.5	0.057	17.5	742	1.1
1.88	7.2	735.9	520	1.0	1.3	18.5	0.071	17.5	747	1.3
1.88	7.2	735.9	520	2.0	1.6	19.5	0.090	17.5	746	1.7
1.88	7.2	735.9	520	3.0	2.0	20.5	0.113	17.5	752	2.1
1.88	7.2	735.9	520	4.0	2.5	21.5	0.141	17.5	754	2.6
1.88	7.2	735.9	520	5.0	3.2	22.5	0.177	17.5	760	3.2
1.88	7.2	735.9	520	6.0	4.0	23.5	0.223	17.5	765	4.1
1.88	7.2	735.9	520	7.0	5.0	24.5	0.281	17.5	775	5.0
1.88	7.2	735.9	520	8.0	6.3	25.4	0.349	17.4	785	6.2
1.88	7.2	735.9	520	9.0	7.9	26.4	0.440	17.4	804	7.6
1.88	7.2	735.9	520	10.0	10.0	27.4	0.546	17.4	825	9.2
1.88	7.2	735.9	520	11.0	12.6	28.4	0.687	17.4	859	11.1
1.88	7.2	735.9	520	12.0	15.8	29.3	0.851	17.3	904	13.1
1.88	7.2	735.9	520	13.0	20.0	30.2	1.054	17.2	963	15.2
1.88	7.2	735.9	520	14.0	25.1	31.2	1.315	17.2	1040	17.6
1.88	7.2	735.9	520	15.0	31.6	32.1	1.637	17.1	1132	20.1
1.88	7.2	735.9	520	16.0	39.8	33.1	2.032	17.1	1237	22.8
1.88	7.2	735.9	520	17.0	50.1	34.0	2.518	17.0	1357	25.8
1.88	7.2	735.9	520	18.0	63.1	35.0	3.133	17.0	1497	29.1
1.88	7.2	735.9	520	19.0	79.4	35.8	3.837	16.8	1641	32.5
1.88	7.2	735.9	520	20.0	100.0	36.7	4.688	16.7	1802	36.1
1.88	7.2	735.9	520	21.0	125.9	37.5	5.623	16.5	1964	39.8
1.88	7.2	735.9	520	22.0	158.5	38.2	6.637	16.2	2123	43.4
1.88	7.2	735.9	520	23.0	199.5	38.8	7.674	15.8	2276	46.8
1.88	7.2	735.9	520	24.0	251.2	39.4	8.650	15.4	2411	49.8
1.88	7.2	735.9	520	25.0	316.2	39.8	9.594	14.8	2533	52.6
1.88	7.2	735.9	520	26.0	398.1	40.2	10.447	14.2	2639	55.0
1.88	7.2	735.9	520	27.0	501.2	40.5	11.246	13.5	2737	57.1
1.88	7.2	735.9	520	28.0	631.0	40.8	11.940	12.8	2822	58.8
1.88	7.2	735.9	520	29.0	794.3	41.0	12.560	12.0	2894	60.3
1.88	7.2	735.9	520	30.0	1000.0	41.2	13.092	11.2	2963	61.4

Input-Output Characteristics $V_{ds}=7.2V$, $I_{bias}=950mA$ - Condition

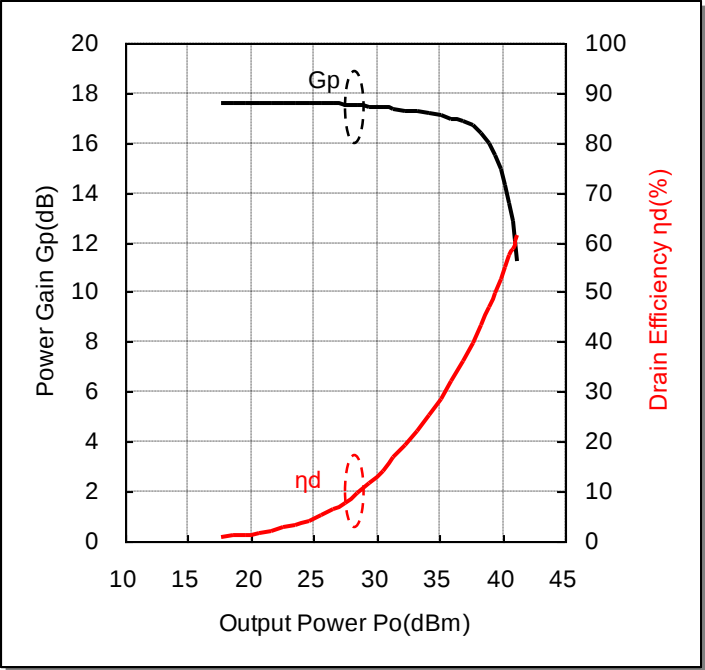
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=7.2V$, $I_{bias}=938.1mA$

Power Gain, Drain Efficiency vs Output Power



@ $f=520MHz$, $V_{ds}=7.2V$, $I_{bias}=938.1mA$

Data

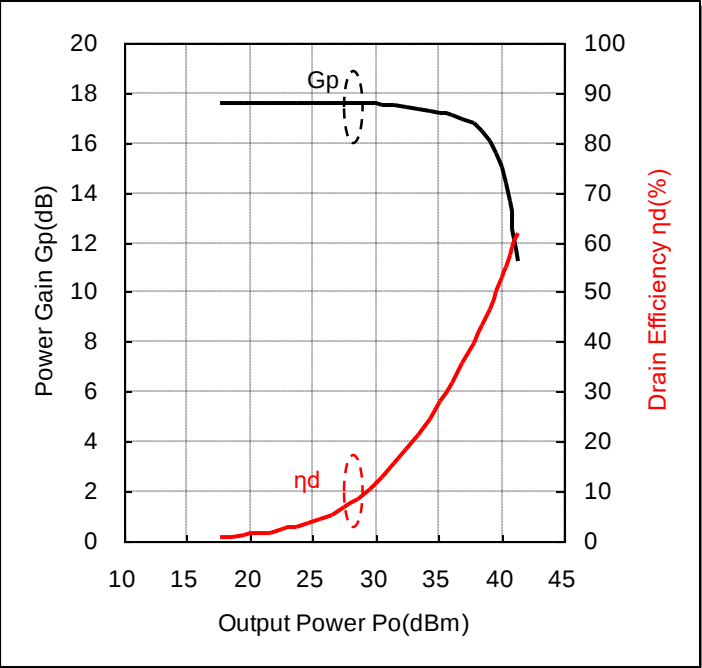
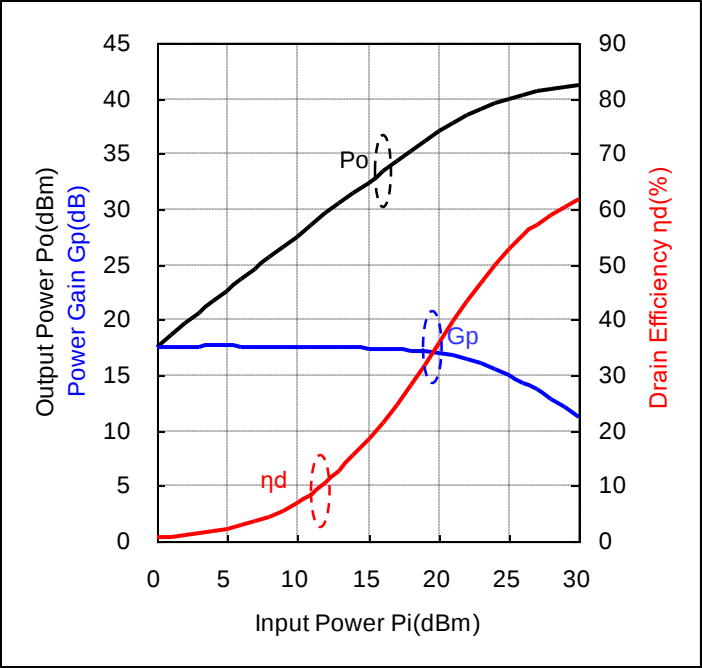
Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.97	7.2	938.1	520	0.0	1.0	17.6	0.058	17.6	941	0.9
1.97	7.2	938.1	520	1.0	1.3	18.6	0.073	17.6	946	1.1
1.97	7.2	938.1	520	2.0	1.6	19.6	0.091	17.6	948	1.3
1.97	7.2	938.1	520	3.0	2.0	20.6	0.114	17.6	949	1.7
1.97	7.2	938.1	520	4.0	2.5	21.6	0.144	17.6	951	2.1
1.97	7.2	938.1	520	5.0	3.2	22.6	0.181	17.6	953	2.6
1.97	7.2	938.1	520	6.0	4.0	23.6	0.228	17.6	962	3.3
1.97	7.2	938.1	520	7.0	5.0	24.6	0.286	17.6	967	4.1
1.97	7.2	938.1	520	8.0	6.3	25.6	0.361	17.6	972	5.2
1.97	7.2	938.1	520	9.0	7.9	26.6	0.454	17.6	983	6.4
1.97	7.2	938.1	520	10.0	10.0	27.5	0.564	17.5	1000	7.8
1.97	7.2	938.1	520	11.0	12.6	28.5	0.710	17.5	1020	9.7
1.97	7.2	938.1	520	12.0	15.8	29.5	0.883	17.5	1046	11.7
1.97	7.2	938.1	520	13.0	20.0	30.5	1.112	17.5	1085	14.2
1.97	7.2	938.1	520	14.0	25.1	31.4	1.371	17.4	1141	16.7
1.97	7.2	938.1	520	15.0	31.6	32.3	1.698	17.3	1219	19.4
1.97	7.2	938.1	520	16.0	39.8	33.2	2.109	17.2	1317	22.2
1.97	7.2	938.1	520	17.0	50.1	34.2	2.618	17.2	1432	25.4
1.97	7.2	938.1	520	18.0	63.1	35.1	3.228	17.1	1564	28.7
1.97	7.2	938.1	520	19.0	79.4	36.0	3.963	17.0	1709	32.2
1.97	7.2	938.1	520	20.0	100.0	36.9	4.864	16.9	1872	36.1
1.97	7.2	938.1	520	21.0	125.9	37.7	5.861	16.7	2038	39.9
1.97	7.2	938.1	520	22.0	158.5	38.4	6.871	16.4	2195	43.5
1.97	7.2	938.1	520	23.0	199.5	39.0	7.889	16.0	2338	46.9
1.97	7.2	938.1	520	24.0	251.2	39.5	8.892	15.5	2471	50.0
1.97	7.2	938.1	520	25.0	316.2	39.9	9.817	14.9	2586	52.7
1.97	7.2	938.1	520	26.0	398.1	40.3	10.691	14.3	2690	55.2
1.97	7.2	938.1	520	27.0	501.2	40.6	11.455	13.6	2780	57.2
1.97	7.2	938.1	520	28.0	631.0	40.8	12.106	12.8	2858	58.8
1.97	7.2	938.1	520	29.0	794.3	41.0	12.735	12.0	2930	60.4
1.97	7.2	938.1	520	30.0	1000.0	41.2	13.243	11.2	2992	61.5

Input-Output Characteristics $V_{ds}=7.2V$, $I_{bias}=1150mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

Power Gain, Drain Efficiency vs Output Power



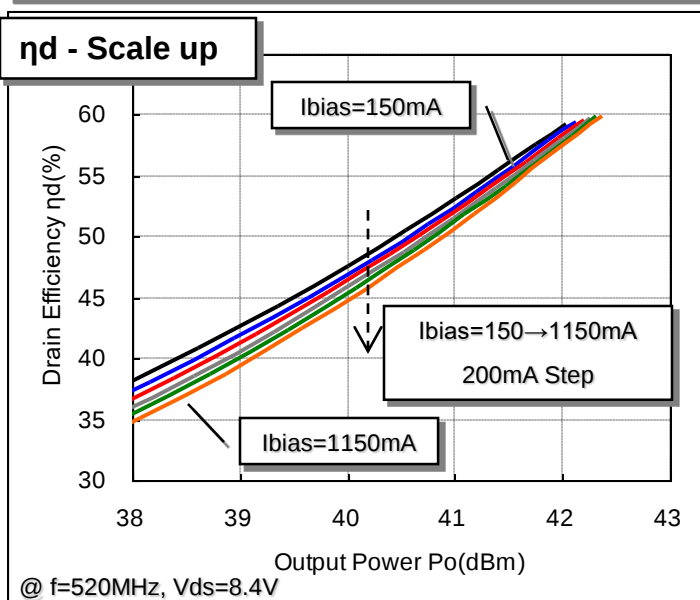
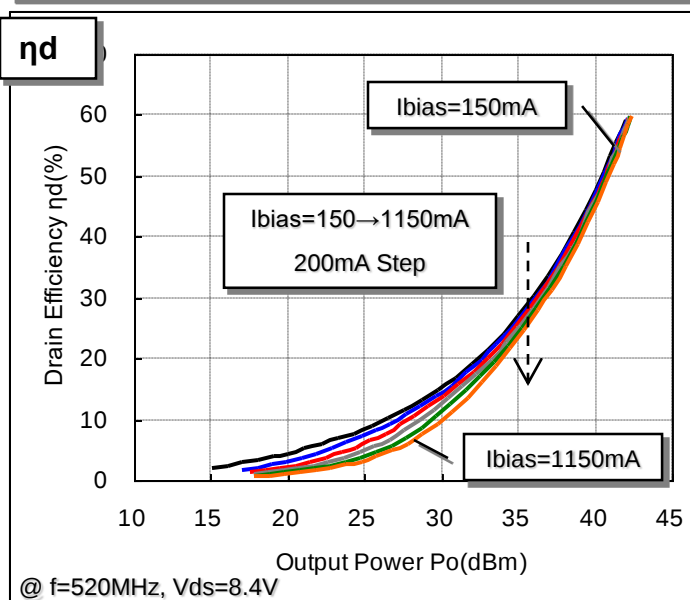
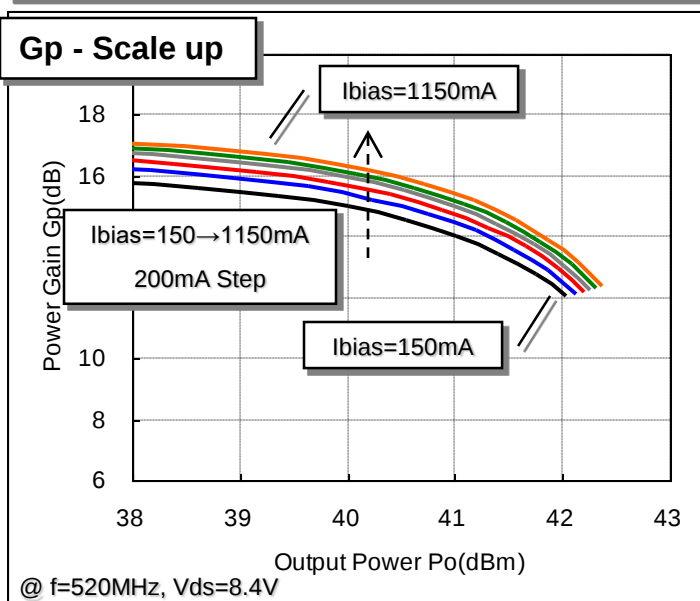
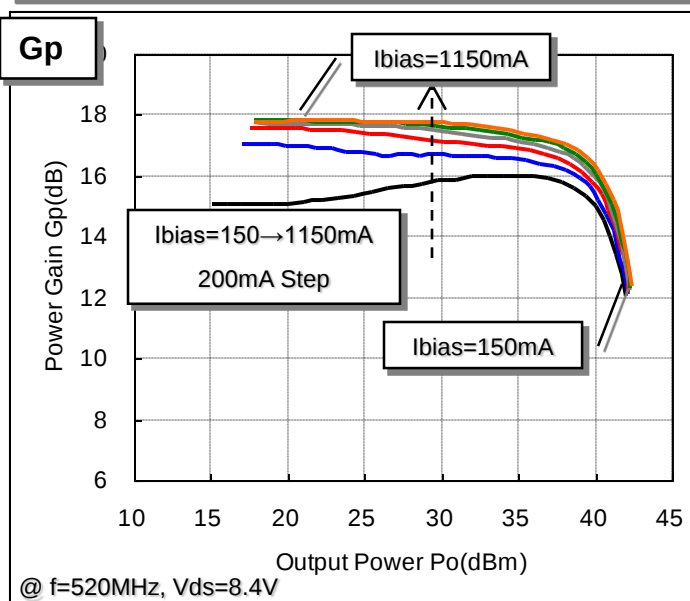
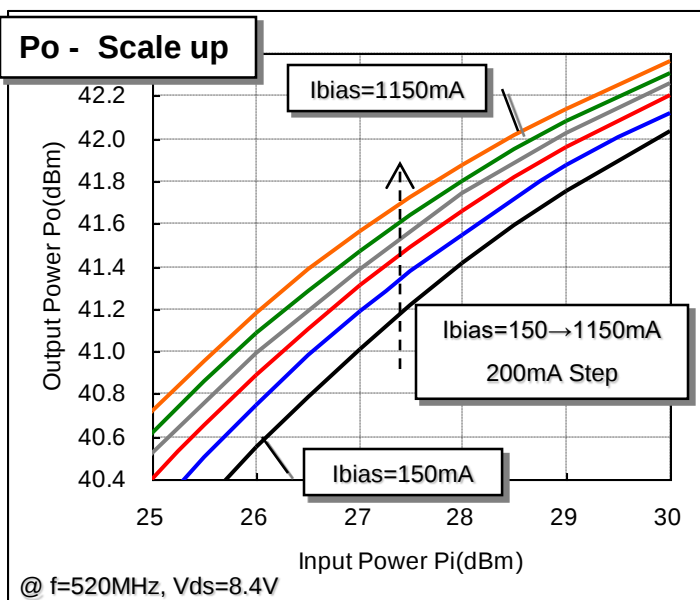
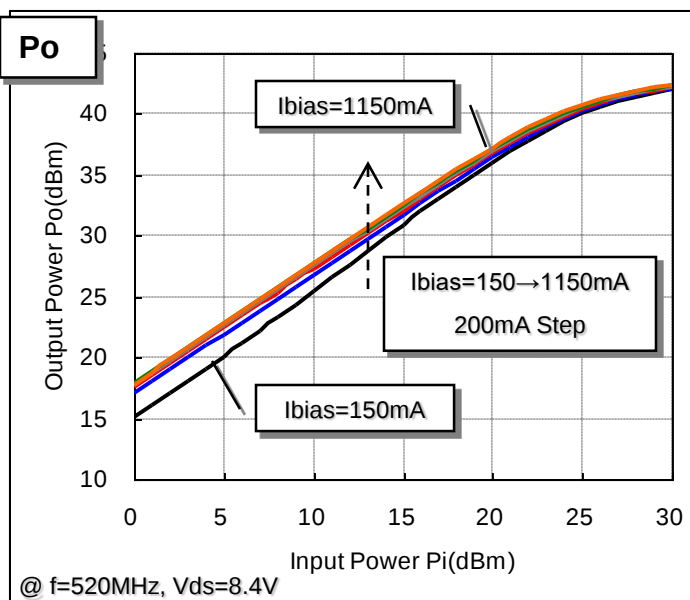
@ $f=520MHz$, $V_{ds}=7.2V$, $I_{bias}=1129.1mA$

@ $f=520MHz$, $V_{ds}=7.2V$, $I_{bias}=1129.1mA$

Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	I _{ds} (mA)	ηd (%)
2.05	7.2	1129.1	520	0.0	1.0	17.6	0.057	17.6	1135	0.7
2.05	7.2	1129.1	520	1.0	1.3	18.6	0.073	17.6	1134	0.9
2.05	7.2	1129.1	520	2.0	1.6	19.6	0.092	17.6	1131	1.1
2.05	7.2	1129.1	520	3.0	2.0	20.6	0.115	17.6	1139	1.4
2.05	7.2	1129.1	520	4.0	2.5	21.6	0.146	17.6	1137	1.8
2.05	7.2	1129.1	520	5.0	3.2	22.6	0.183	17.6	1137	2.2
2.05	7.2	1129.1	520	6.0	4.0	23.6	0.230	17.6	1141	2.8
2.05	7.2	1129.1	520	7.0	5.0	24.6	0.290	17.6	1146	3.5
2.05	7.2	1129.1	520	8.0	6.3	25.6	0.365	17.6	1155	4.4
2.05	7.2	1129.1	520	9.0	7.9	26.6	0.453	17.6	1162	5.4
2.05	7.2	1129.1	520	10.0	10.0	27.6	0.570	17.6	1172	6.8
2.05	7.2	1129.1	520	11.0	12.6	28.6	0.718	17.6	1186	8.4
2.05	7.2	1129.1	520	12.0	15.8	29.6	0.904	17.6	1201	10.5
2.05	7.2	1129.1	520	13.0	20.0	30.5	1.122	17.5	1227	12.7
2.05	7.2	1129.1	520	14.0	25.1	31.5	1.406	17.5	1262	15.5
2.05	7.2	1129.1	520	15.0	31.6	32.4	1.746	17.4	1319	18.4
2.05	7.2	1129.1	520	16.0	39.8	33.3	2.163	17.3	1400	21.5
2.05	7.2	1129.1	520	17.0	50.1	34.3	2.673	17.3	1504	24.7
2.05	7.2	1129.1	520	18.0	63.1	35.2	3.296	17.2	1629	28.1
2.05	7.2	1129.1	520	19.0	79.4	36.1	4.064	17.1	1774	31.8
2.05	7.2	1129.1	520	20.0	100.0	37.0	4.966	17.0	1930	35.7
2.05	7.2	1129.1	520	21.0	125.9	37.8	5.998	16.8	2097	39.7
2.05	7.2	1129.1	520	22.0	158.5	38.5	7.015	16.5	2249	43.3
2.05	7.2	1129.1	520	23.0	199.5	39.1	8.054	16.1	2392	46.8
2.05	7.2	1129.1	520	24.0	251.2	39.6	9.078	15.6	2520	50.0
2.05	7.2	1129.1	520	25.0	316.2	40.0	10.023	15.0	2633	52.9
2.05	7.2	1129.1	520	26.0	398.1	40.4	10.864	14.4	2733	55.2
2.05	7.2	1129.1	520	27.0	501.2	40.7	11.614	13.7	2817	57.3
2.05	7.2	1129.1	520	28.0	631.0	40.9	12.274	12.9	2891	59.0
2.05	7.2	1129.1	520	29.0	794.3	41.1	12.853	12.1	2961	60.3
2.05	7.2	1129.1	520	30.0	1000.0	41.3	13.397	11.3	3018	61.7

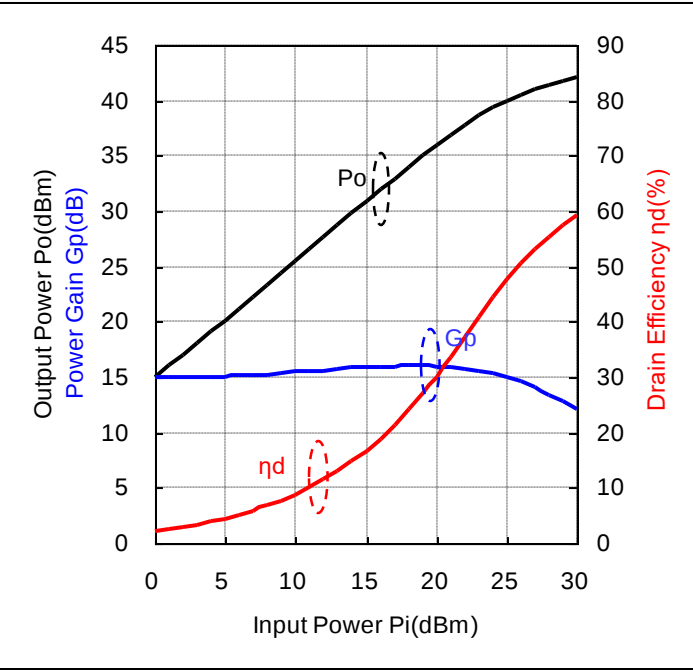
Input - Output Characteristics $V_{ds}=8.4V$ - Condition



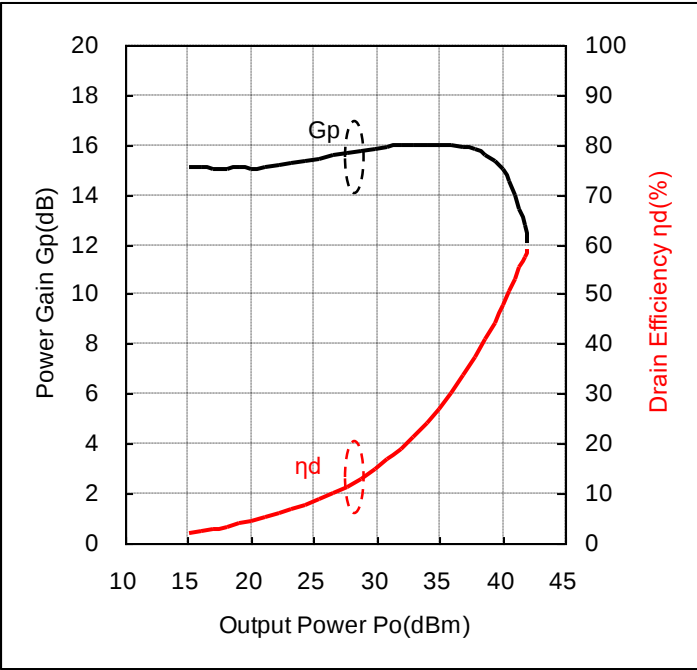
Input-Output Characteristics $V_{ds}=8.4V$, $I_{bias}=150mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=147.8mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=147.8mA$

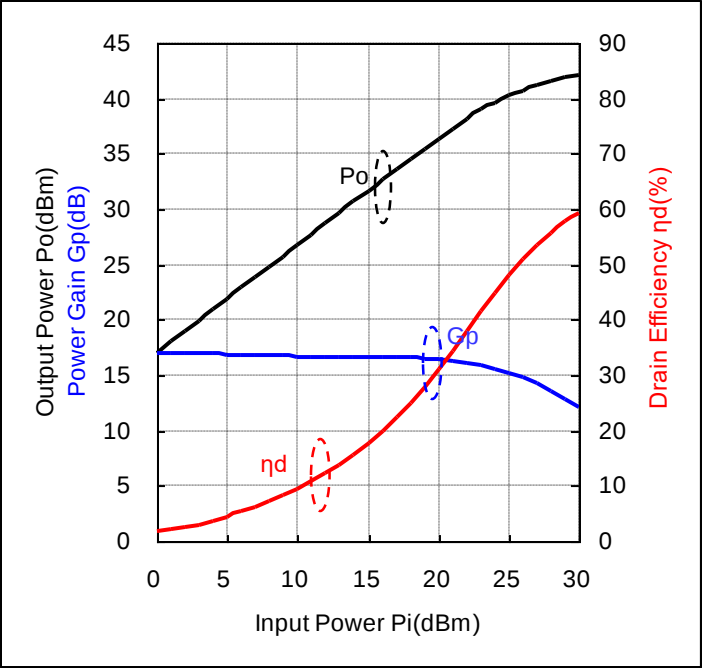
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.51	8.4	147.8	520	0.0	1.0	15.1	0.032	15.1	188	2.0
1.51	8.4	147.8	520	1.0	1.3	16.1	0.041	15.1	200	2.4
1.51	8.4	147.8	520	2.0	1.6	17.0	0.051	15.0	211	2.9
1.51	8.4	147.8	520	3.0	2.0	18.1	0.064	15.1	228	3.3
1.51	8.4	147.8	520	4.0	2.5	19.1	0.081	15.1	248	3.9
1.51	8.4	147.8	520	5.0	3.2	20.0	0.101	15.0	272	4.4
1.51	8.4	147.8	520	6.0	4.0	21.1	0.129	15.1	301	5.1
1.51	8.4	147.8	520	7.0	5.0	22.2	0.166	15.2	336	5.9
1.51	8.4	147.8	520	8.0	6.3	23.2	0.211	15.2	373	6.7
1.51	8.4	147.8	520	9.0	7.9	24.3	0.272	15.3	419	7.7
1.51	8.4	147.8	520	10.0	10.0	25.5	0.352	15.5	475	8.8
1.51	8.4	147.8	520	11.0	12.6	26.6	0.455	15.6	536	10.1
1.51	8.4	147.8	520	12.0	15.8	27.6	0.579	15.6	604	11.4
1.51	8.4	147.8	520	13.0	20.0	28.7	0.748	15.7	684	13.0
1.51	8.4	147.8	520	14.0	25.1	29.8	0.962	15.8	772	14.8
1.51	8.4	147.8	520	15.0	31.6	30.9	1.227	15.9	871	16.8
1.51	8.4	147.8	520	16.0	39.8	32.0	1.570	16.0	985	19.0
1.51	8.4	147.8	520	17.0	50.1	33.0	1.986	16.0	1107	21.4
1.51	8.4	147.8	520	18.0	63.1	34.0	2.523	16.0	1245	24.1
1.51	8.4	147.8	520	19.0	79.4	35.0	3.162	16.0	1395	27.0
1.51	8.4	147.8	520	20.0	100.0	36.0	3.945	16.0	1559	30.1
1.51	8.4	147.8	520	21.0	125.9	36.9	4.898	15.9	1737	33.6
1.51	8.4	147.8	520	22.0	158.5	37.8	6.012	15.8	1926	37.2
1.51	8.4	147.8	520	23.0	199.5	38.6	7.278	15.6	2125	40.8
1.51	8.4	147.8	520	24.0	251.2	39.4	8.630	15.4	2318	44.3
1.51	8.4	147.8	520	25.0	316.2	40.0	10.023	15.0	2504	47.7
1.51	8.4	147.8	520	26.0	398.1	40.5	11.350	14.5	2671	50.6
1.51	8.4	147.8	520	27.0	501.2	41.0	12.618	14.0	2828	53.1
1.51	8.4	147.8	520	28.0	631.0	41.4	13.836	13.4	2971	55.4
1.51	8.4	147.8	520	29.0	794.3	41.8	14.962	12.8	3096	57.5
1.51	8.4	147.8	520	30.0	1000.0	42.0	15.959	12.0	3210	59.2

Input-Output Characteristics $V_{ds}=8.4V$, $I_{bias}=350mA$ - Condition

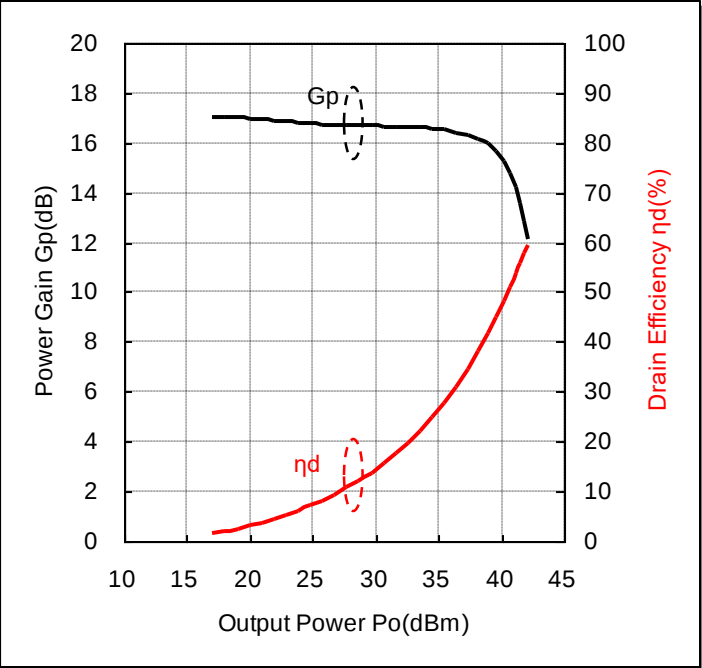
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=345.9mA$

Power Gain, Drain Efficiency vs Output Power



@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=345.9mA$

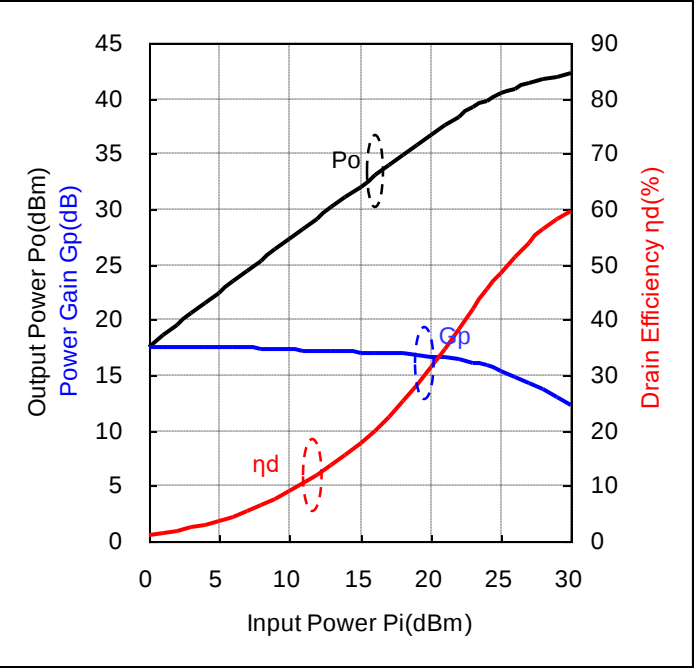
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	I _{ds} (mA)	η_d (%)
1.65	8.4	345.9	520	0.0	1.0	17.0	0.050	17.0	367	1.6
1.65	8.4	345.9	520	1.0	1.3	18.0	0.063	17.0	373	2.0
1.65	8.4	345.9	520	2.0	1.6	19.0	0.080	17.0	380	2.5
1.65	8.4	345.9	520	3.0	2.0	20.0	0.099	17.0	387	3.0
1.65	8.4	345.9	520	4.0	2.5	21.0	0.124	17.0	403	3.7
1.65	8.4	345.9	520	5.0	3.2	21.9	0.155	16.9	416	4.4
1.65	8.4	345.9	520	6.0	4.0	22.9	0.194	16.9	439	5.3
1.65	8.4	345.9	520	7.0	5.0	23.8	0.238	16.8	464	6.1
1.65	8.4	345.9	520	8.0	6.3	24.8	0.300	16.8	502	7.1
1.65	8.4	345.9	520	9.0	7.9	25.7	0.374	16.7	544	8.2
1.65	8.4	345.9	520	10.0	10.0	26.7	0.466	16.7	595	9.3
1.65	8.4	345.9	520	11.0	12.6	27.7	0.590	16.7	655	10.7
1.65	8.4	345.9	520	12.0	15.8	28.7	0.736	16.7	723	12.1
1.65	8.4	345.9	520	13.0	20.0	29.7	0.931	16.7	805	13.8
1.65	8.4	345.9	520	14.0	25.1	30.6	1.161	16.6	890	15.5
1.65	8.4	345.9	520	15.0	31.6	31.7	1.466	16.7	992	17.6
1.65	8.4	345.9	520	16.0	39.8	32.6	1.832	16.6	1105	19.7
1.65	8.4	345.9	520	17.0	50.1	33.6	2.296	16.6	1229	22.2
1.65	8.4	345.9	520	18.0	63.1	34.6	2.858	16.6	1367	24.9
1.65	8.4	345.9	520	19.0	79.4	35.5	3.556	16.5	1521	27.8
1.65	8.4	345.9	520	20.0	100.0	36.4	4.375	16.4	1682	31.0
1.65	8.4	345.9	520	21.0	125.9	37.3	5.383	16.3	1863	34.4
1.65	8.4	345.9	520	22.0	158.5	38.2	6.546	16.2	2051	38.0
1.65	8.4	345.9	520	23.0	199.5	39.0	7.852	16.0	2246	41.6
1.65	8.4	345.9	520	24.0	251.2	39.6	9.183	15.6	2431	45.0
1.65	8.4	345.9	520	25.0	316.2	40.2	10.544	15.2	2608	48.1
1.65	8.4	345.9	520	26.0	398.1	40.8	11.885	14.8	2769	51.1
1.65	8.4	345.9	520	27.0	501.2	41.2	13.152	14.2	2918	53.7
1.65	8.4	345.9	520	28.0	631.0	41.5	14.289	13.5	3047	55.8
1.65	8.4	345.9	520	29.0	794.3	41.9	15.382	12.9	3165	57.9
1.65	8.4	345.9	520	30.0	1000.0	42.1	16.293	12.1	3268	59.4

Input-Output Characteristics $V_{ds}=8.4V$, $I_{bias}=550mA$ - Condition

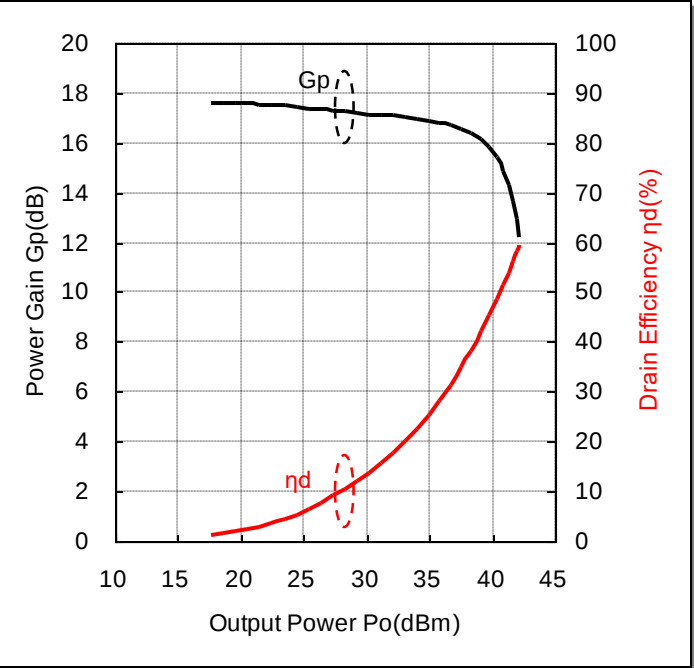
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=546.8mA$

Power Gain, Drain Efficiency vs Output Power



@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=546.8mA$

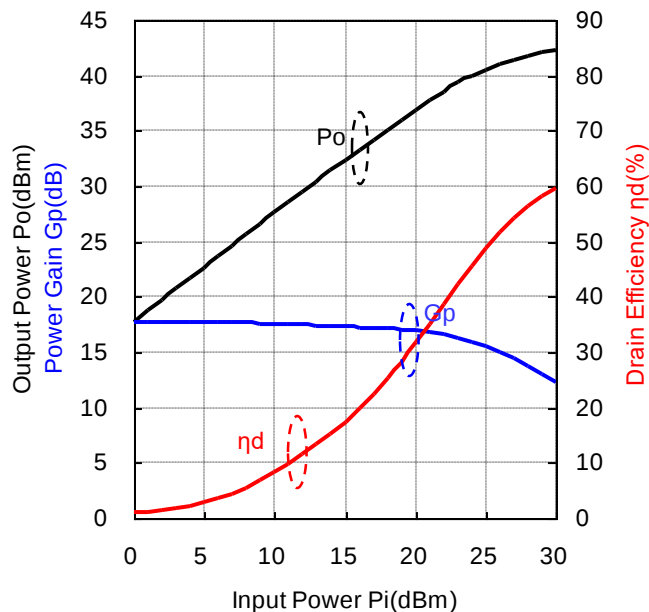
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	I _{ds} (mA)	η _d (%)
1.76	8.4	546.8	520	0.0	1.0	17.6	0.057	17.6	560	1.2
1.76	8.4	546.8	520	1.0	1.3	18.6	0.072	17.6	561	1.5
1.76	8.4	546.8	520	2.0	1.6	19.6	0.090	17.6	567	1.9
1.76	8.4	546.8	520	3.0	2.0	20.6	0.114	17.6	571	2.4
1.76	8.4	546.8	520	4.0	2.5	21.5	0.141	17.5	577	2.9
1.76	8.4	546.8	520	5.0	3.2	22.5	0.177	17.5	587	3.6
1.76	8.4	546.8	520	6.0	4.0	23.5	0.222	17.5	596	4.4
1.76	8.4	546.8	520	7.0	5.0	24.5	0.279	17.5	615	5.4
1.76	8.4	546.8	520	8.0	6.3	25.4	0.344	17.4	637	6.4
1.76	8.4	546.8	520	9.0	7.9	26.4	0.432	17.4	665	7.7
1.76	8.4	546.8	520	10.0	10.0	27.3	0.536	17.3	704	9.1
1.76	8.4	546.8	520	11.0	12.6	28.2	0.667	17.2	757	10.5
1.76	8.4	546.8	520	12.0	15.8	29.2	0.828	17.2	819	12.0
1.76	8.4	546.8	520	13.0	20.0	30.1	1.033	17.1	893	13.8
1.76	8.4	546.8	520	14.0	25.1	31.1	1.297	17.1	984	15.7
1.76	8.4	546.8	520	15.0	31.6	32.1	1.611	17.1	1082	17.7
1.76	8.4	546.8	520	16.0	39.8	33.0	1.995	17.0	1192	19.9
1.76	8.4	546.8	520	17.0	50.1	34.0	2.489	17.0	1317	22.5
1.76	8.4	546.8	520	18.0	63.1	34.9	3.090	16.9	1458	25.2
1.76	8.4	546.8	520	19.0	79.4	35.8	3.819	16.8	1611	28.2
1.76	8.4	546.8	520	20.0	100.0	36.7	4.688	16.7	1777	31.4
1.76	8.4	546.8	520	21.0	125.9	37.6	5.715	16.6	1955	34.8
1.76	8.4	546.8	520	22.0	158.5	38.4	6.902	16.4	2144	38.3
1.76	8.4	546.8	520	23.0	199.5	39.2	8.222	16.2	2332	42.0
1.76	8.4	546.8	520	24.0	251.2	39.8	9.594	15.8	2517	45.4
1.76	8.4	546.8	520	25.0	316.2	40.4	10.965	15.4	2688	48.6
1.76	8.4	546.8	520	26.0	398.1	40.9	12.274	14.9	2842	51.4
1.76	8.4	546.8	520	27.0	501.2	41.3	13.521	14.3	2981	54.0
1.76	8.4	546.8	520	28.0	631.0	41.7	14.655	13.7	3104	56.2
1.76	8.4	546.8	520	29.0	794.3	42.0	15.704	13.0	3217	58.1
1.76	8.4	546.8	520	30.0	1000.0	42.2	16.596	12.2	3313	59.6

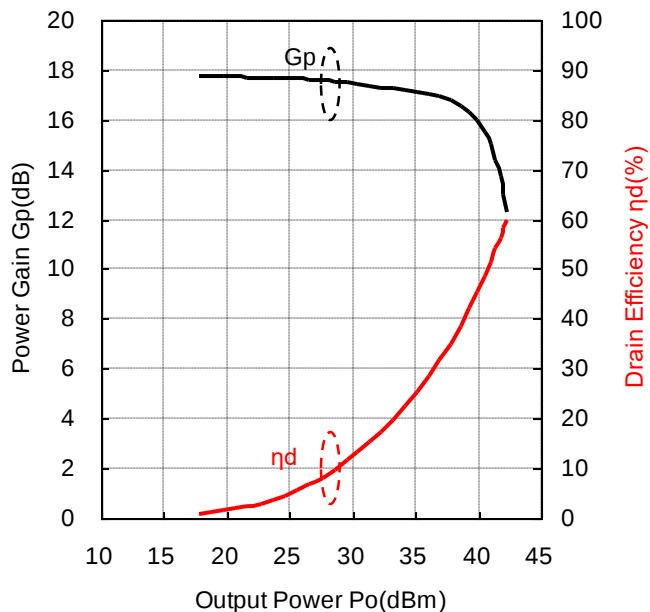
Input-Output Characteristics $V_{ds}=8.4V$, $I_{bias}=750mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=739.0mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=739.0mA$

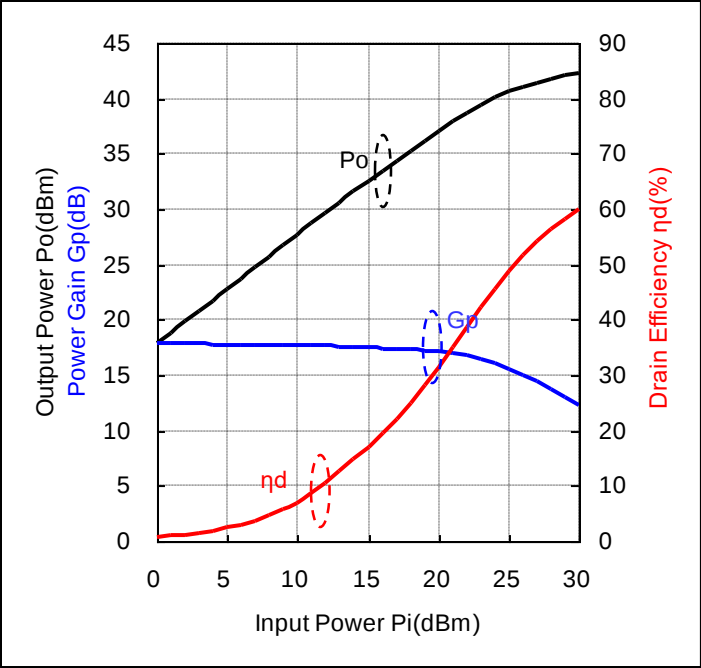
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.85	8.4	739.0	520	0.0	1.0	17.8	0.060	17.8	747	0.9
1.85	8.4	739.0	520	1.0	1.3	18.7	0.074	17.7	750	1.2
1.85	8.4	739.0	520	2.0	1.6	19.7	0.094	17.7	753	1.5
1.85	8.4	739.0	520	3.0	2.0	20.7	0.118	17.7	756	1.9
1.85	8.4	739.0	520	4.0	2.5	21.7	0.147	17.7	759	2.3
1.85	8.4	739.0	520	5.0	3.2	22.7	0.185	17.7	765	2.9
1.85	8.4	739.0	520	6.0	4.0	23.7	0.233	17.7	769	3.6
1.85	8.4	739.0	520	7.0	5.0	24.7	0.292	17.7	781	4.5
1.85	8.4	739.0	520	8.0	6.3	25.7	0.368	17.7	797	5.5
1.85	8.4	739.0	520	9.0	7.9	26.6	0.458	17.6	811	6.7
1.85	8.4	739.0	520	10.0	10.0	27.6	0.575	17.6	838	8.2
1.85	8.4	739.0	520	11.0	12.6	28.5	0.716	17.5	872	9.8
1.85	8.4	739.0	520	12.0	15.8	29.5	0.891	17.5	920	11.5
1.85	8.4	739.0	520	13.0	20.0	30.4	1.104	17.4	985	13.3
1.85	8.4	739.0	520	14.0	25.1	31.4	1.374	17.4	1065	15.4
1.85	8.4	739.0	520	15.0	31.6	32.3	1.698	17.3	1158	17.5
1.85	8.4	739.0	520	16.0	39.8	33.2	2.109	17.2	1268	19.8
1.85	8.4	739.0	520	17.0	50.1	34.2	2.642	17.2	1397	22.5
1.85	8.4	739.0	520	18.0	63.1	35.1	3.243	17.1	1531	25.2
1.85	8.4	739.0	520	19.0	79.4	36.0	4.018	17.0	1688	28.3
1.85	8.4	739.0	520	20.0	100.0	36.9	4.932	16.9	1856	31.6
1.85	8.4	739.0	520	21.0	125.9	37.8	5.984	16.8	2034	35.0
1.85	8.4	739.0	520	22.0	158.5	38.6	7.194	16.6	2220	38.6
1.85	8.4	739.0	520	23.0	199.5	39.3	8.551	16.3	2411	42.2
1.85	8.4	739.0	520	24.0	251.2	40.0	9.908	16.0	2588	45.6
1.85	8.4	739.0	520	25.0	316.2	40.5	11.272	15.5	2753	48.7
1.85	8.4	739.0	520	26.0	398.1	41.0	12.560	15.0	2899	51.6
1.85	8.4	739.0	520	27.0	501.2	41.4	13.772	14.4	3033	54.1
1.85	8.4	739.0	520	28.0	631.0	41.7	14.928	13.7	3153	56.4
1.85	8.4	739.0	520	29.0	794.3	42.0	15.922	13.0	3258	58.2
1.85	8.4	739.0	520	30.0	1000.0	42.3	16.827	12.3	3351	59.8

Input-Output Characteristics $V_{ds}=8.4V$, $I_{bias}=950mA$ - Condition

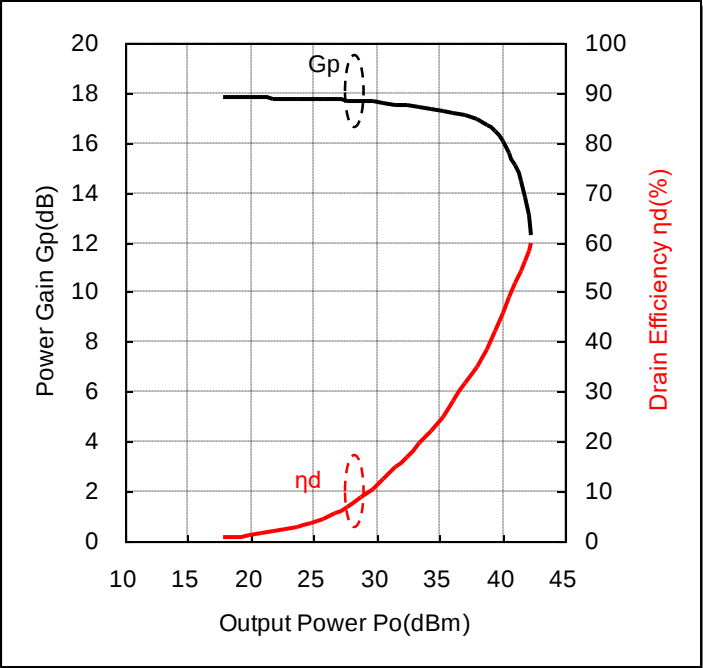
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=933.6mA$

Power Gain, Drain Efficiency vs Output Power



@ $f=520MHz$, $V_{ds}=8.4V$, $I_{bias}=933.6mA$

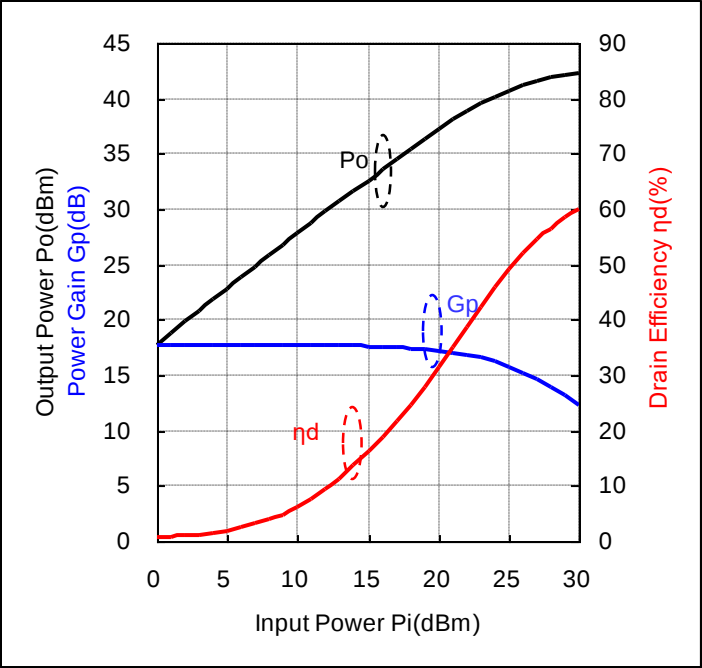
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	η_d (%)
1.94	8.4	933.6	520	0.0	1.0	17.8	0.060	17.8	941	0.8
1.94	8.4	933.6	520	1.0	1.3	18.8	0.076	17.8	942	1.0
1.94	8.4	933.6	520	2.0	1.6	19.8	0.096	17.8	944	1.2
1.94	8.4	933.6	520	3.0	2.0	20.8	0.121	17.8	943	1.5
1.94	8.4	933.6	520	4.0	2.5	21.8	0.150	17.8	950	1.9
1.94	8.4	933.6	520	5.0	3.2	22.8	0.189	17.8	952	2.4
1.94	8.4	933.6	520	6.0	4.0	23.8	0.238	17.8	958	3.0
1.94	8.4	933.6	520	7.0	5.0	24.8	0.299	17.8	964	3.7
1.94	8.4	933.6	520	8.0	6.3	25.8	0.376	17.8	974	4.6
1.94	8.4	933.6	520	9.0	7.9	26.8	0.473	17.8	983	5.7
1.94	8.4	933.6	520	10.0	10.0	27.7	0.589	17.7	1000	7.0
1.94	8.4	933.6	520	11.0	12.6	28.7	0.741	17.7	1018	8.7
1.94	8.4	933.6	520	12.0	15.8	29.6	0.923	17.6	1051	10.4
1.94	8.4	933.6	520	13.0	20.0	30.6	1.148	17.6	1094	12.5
1.94	8.4	933.6	520	14.0	25.1	31.5	1.426	17.5	1157	14.7
1.94	8.4	933.6	520	15.0	31.6	32.5	1.766	17.5	1239	17.0
1.94	8.4	933.6	520	16.0	39.8	33.4	2.203	17.4	1346	19.5
1.94	8.4	933.6	520	17.0	50.1	34.4	2.729	17.4	1466	22.2
1.94	8.4	933.6	520	18.0	63.1	35.3	3.365	17.3	1601	25.0
1.94	8.4	933.6	520	19.0	79.4	36.2	4.140	17.2	1753	28.1
1.94	8.4	933.6	520	20.0	100.0	37.1	5.105	17.1	1924	31.6
1.94	8.4	933.6	520	21.0	125.9	37.9	6.209	16.9	2107	35.1
1.94	8.4	933.6	520	22.0	158.5	38.7	7.464	16.7	2294	38.7
1.94	8.4	933.6	520	23.0	199.5	39.5	8.810	16.5	2477	42.3
1.94	8.4	933.6	520	24.0	251.2	40.1	10.186	16.1	2653	45.7
1.94	8.4	933.6	520	25.0	316.2	40.6	11.535	15.6	2810	48.9
1.94	8.4	933.6	520	26.0	398.1	41.1	12.853	15.1	2955	51.8
1.94	8.4	933.6	520	27.0	501.2	41.5	14.028	14.5	3083	54.2
1.94	8.4	933.6	520	28.0	631.0	41.8	15.136	13.8	3197	56.4
1.94	8.4	933.6	520	29.0	794.3	42.1	16.144	13.1	3295	58.3
1.94	8.4	933.6	520	30.0	1000.0	42.3	17.022	12.3	3385	59.9

Input-Output Characteristics $V_{ds}=8.4V$, $I_{bias}=1150mA$ - Condition

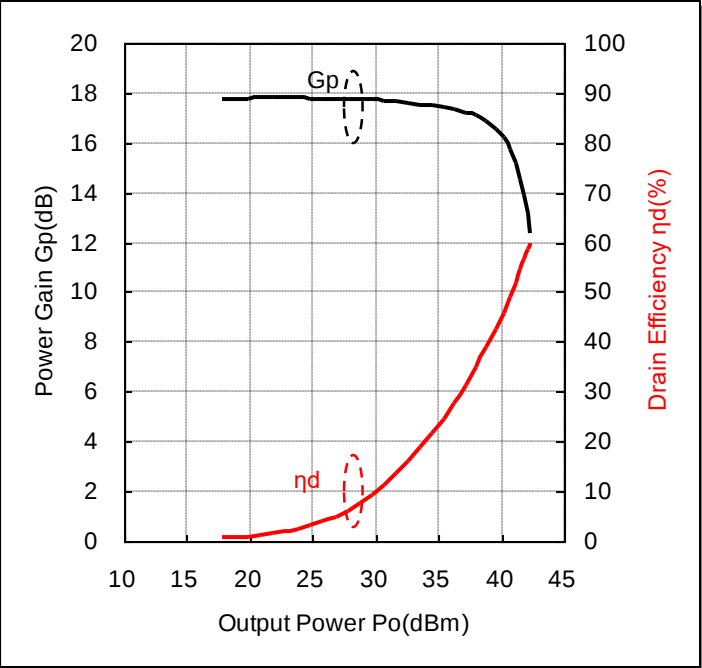
Graph

Output Power, Power Gain, Drain Efficiency vs Input Power



@ f=520MHz, $V_{ds}=8.4V$, $I_{bias}=1137.4mA$

Power Gain, Drain Efficiency vs Output Power

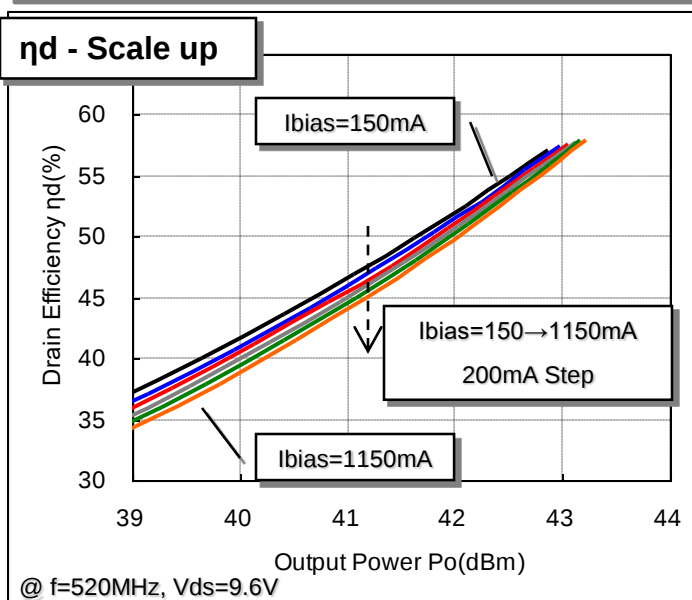
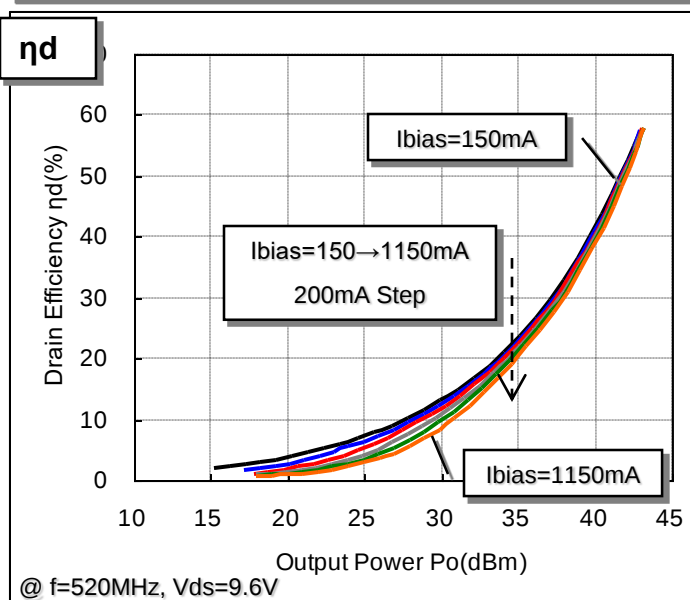
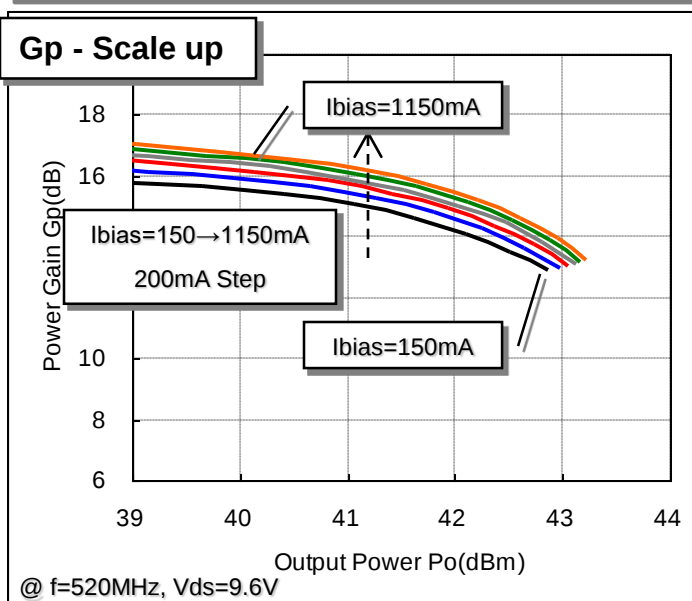
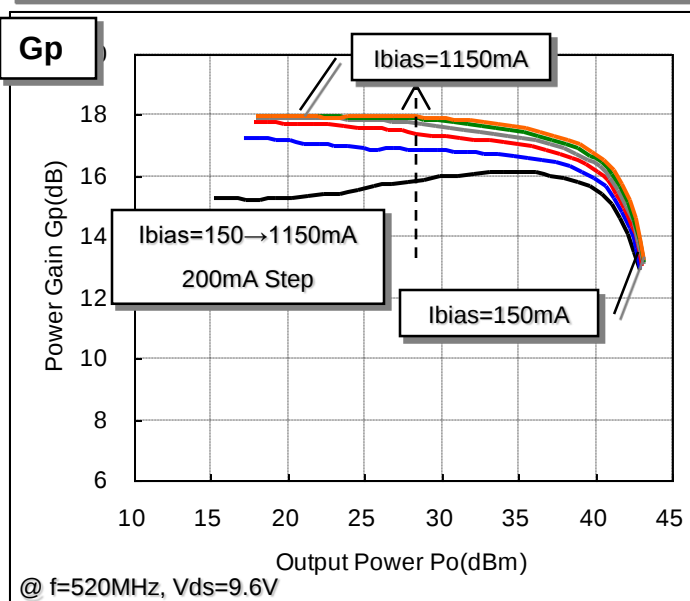
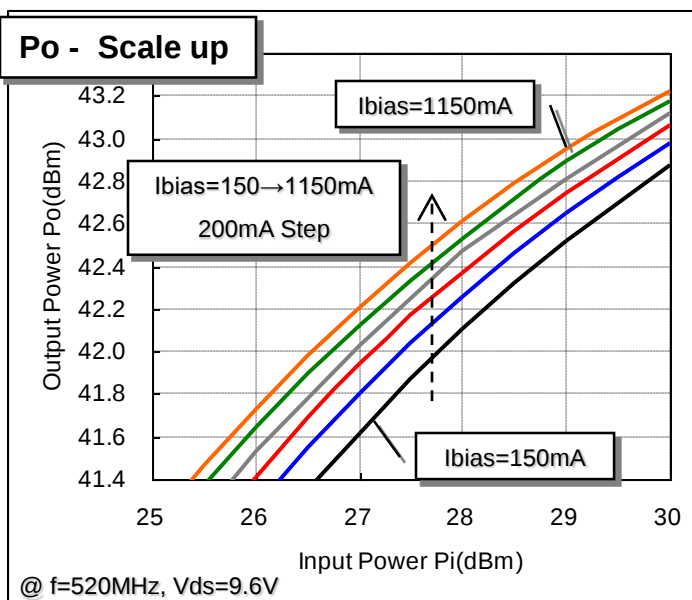
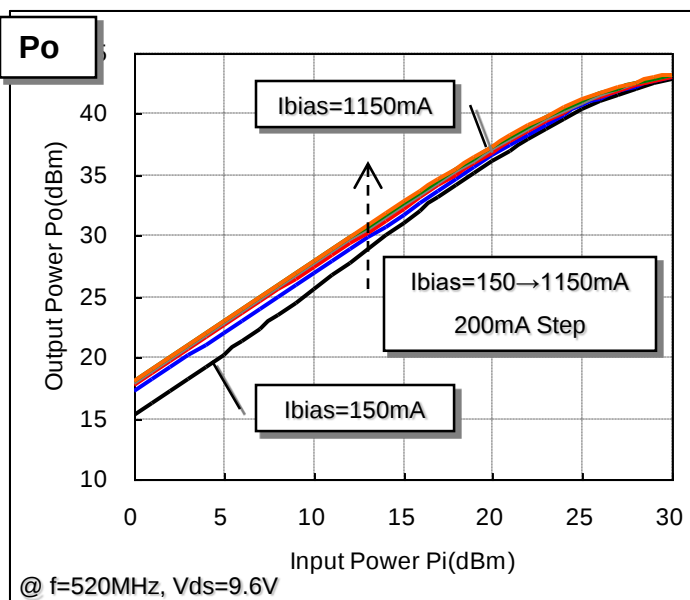


@ f=520MHz, $V_{ds}=8.4V$, $I_{bias}=1137.4mA$

Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	I _{ds} (mA)	η _d (%)
2.03	8.4	1137.4	520	0.0	1.0	17.8	0.060	17.8	1140	0.6
2.03	8.4	1137.4	520	1.0	1.3	18.8	0.076	17.8	1137	0.8
2.03	8.4	1137.4	520	2.0	1.6	19.8	0.095	17.8	1142	1.0
2.03	8.4	1137.4	520	3.0	2.0	20.8	0.120	17.8	1142	1.3
2.03	8.4	1137.4	520	4.0	2.5	21.8	0.151	17.8	1146	1.6
2.03	8.4	1137.4	520	5.0	3.2	22.8	0.191	17.8	1148	2.0
2.03	8.4	1137.4	520	6.0	4.0	23.8	0.240	17.8	1155	2.5
2.03	8.4	1137.4	520	7.0	5.0	24.8	0.301	17.8	1154	3.1
2.03	8.4	1137.4	520	8.0	6.3	25.8	0.379	17.8	1163	3.9
2.03	8.4	1137.4	520	9.0	7.9	26.8	0.478	17.8	1169	4.9
2.03	8.4	1137.4	520	10.0	10.0	27.8	0.601	17.8	1182	6.1
2.03	8.4	1137.4	520	11.0	12.6	28.7	0.748	17.7	1196	7.5
2.03	8.4	1137.4	520	12.0	15.8	29.7	0.942	17.7	1214	9.2
2.03	8.4	1137.4	520	13.0	20.0	30.7	1.172	17.7	1242	11.2
2.03	8.4	1137.4	520	14.0	25.1	31.7	1.469	17.7	1285	13.6
2.03	8.4	1137.4	520	15.0	31.6	32.6	1.824	17.6	1344	16.2
2.03	8.4	1137.4	520	16.0	39.8	33.5	2.259	17.5	1432	18.8
2.03	8.4	1137.4	520	17.0	50.1	34.5	2.799	17.5	1542	21.6
2.03	8.4	1137.4	520	18.0	63.1	35.4	3.459	17.4	1674	24.6
2.03	8.4	1137.4	520	19.0	79.4	36.3	4.276	17.3	1825	27.9
2.03	8.4	1137.4	520	20.0	100.0	37.2	5.236	17.2	1991	31.3
2.03	8.4	1137.4	520	21.0	125.9	38.1	6.412	17.1	2179	35.0
2.03	8.4	1137.4	520	22.0	158.5	38.9	7.709	16.9	2368	38.8
2.03	8.4	1137.4	520	23.0	199.5	39.6	9.078	16.6	2548	42.4
2.03	8.4	1137.4	520	24.0	251.2	40.2	10.447	16.2	2716	45.8
2.03	8.4	1137.4	520	25.0	316.2	40.7	11.803	15.7	2869	49.0
2.03	8.4	1137.4	520	26.0	398.1	41.2	13.122	15.2	3009	51.9
2.03	8.4	1137.4	520	27.0	501.2	41.6	14.322	14.6	3132	54.4
2.03	8.4	1137.4	520	28.0	631.0	41.9	15.382	13.9	3238	56.6
2.03	8.4	1137.4	520	29.0	794.3	42.1	16.368	13.1	3334	58.4
2.03	8.4	1137.4	520	30.0	1000.0	42.4	17.219	12.4	3418	60.0

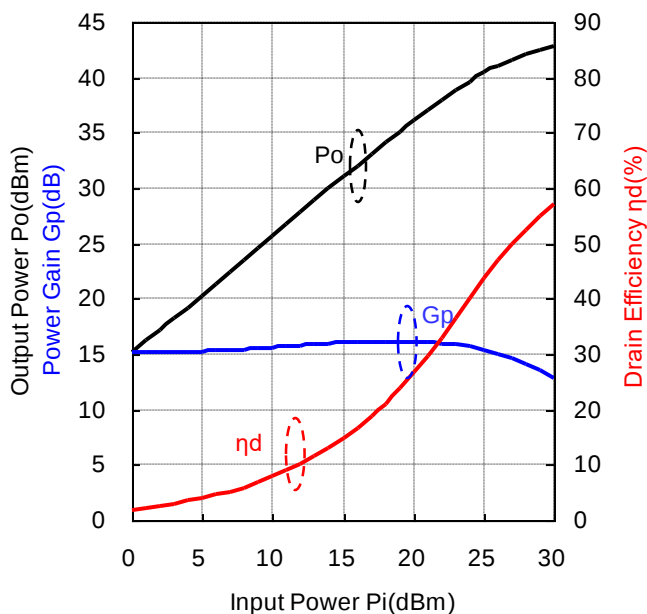
Input - Output Characteristics $V_{ds}=9.6V$ - Condition



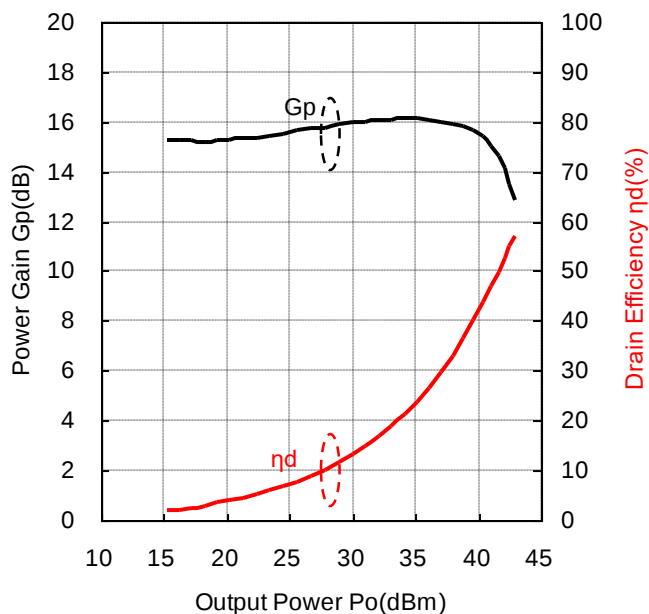
Input-Output Characteristics $V_{ds}=9.6V$, $I_{bias}=150mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=149.6mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=149.6mA$

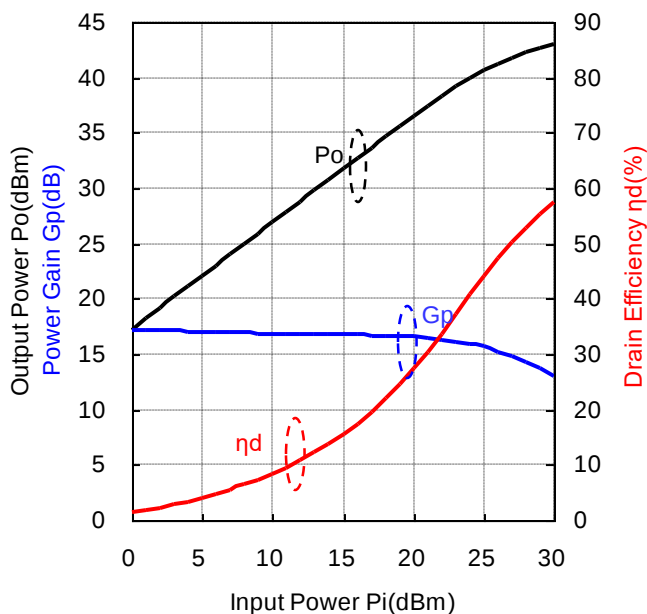
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	Ids (mA)	ηd (%)
1.49	9.6	149.6	520	0.0	1.0	15.2	0.033	15.2	191	1.8
1.49	9.6	149.6	520	1.0	1.3	16.2	0.042	15.2	202	2.2
1.49	9.6	149.6	520	2.0	1.6	17.2	0.053	15.2	218	2.5
1.49	9.6	149.6	520	3.0	2.0	18.2	0.066	15.2	233	3.0
1.49	9.6	149.6	520	4.0	2.5	19.2	0.084	15.2	254	3.4
1.49	9.6	149.6	520	5.0	3.2	20.3	0.106	15.3	279	4.0
1.49	9.6	149.6	520	6.0	4.0	21.3	0.135	15.3	309	4.6
1.49	9.6	149.6	520	7.0	5.0	22.4	0.173	15.4	344	5.2
1.49	9.6	149.6	520	8.0	6.3	23.4	0.220	15.4	385	5.9
1.49	9.6	149.6	520	9.0	7.9	24.5	0.283	15.5	431	6.8
1.49	9.6	149.6	520	10.0	10.0	25.6	0.366	15.6	488	7.8
1.49	9.6	149.6	520	11.0	12.6	26.7	0.472	15.7	549	9.0
1.49	9.6	149.6	520	12.0	15.8	27.8	0.600	15.8	617	10.1
1.49	9.6	149.6	520	13.0	20.0	28.9	0.774	15.9	700	11.5
1.49	9.6	149.6	520	14.0	25.1	30.0	0.993	16.0	790	13.1
1.49	9.6	149.6	520	15.0	31.6	31.0	1.265	16.0	890	14.8
1.49	9.6	149.6	520	16.0	39.8	32.1	1.607	16.1	1003	16.7
1.49	9.6	149.6	520	17.0	50.1	33.1	2.042	16.1	1129	18.8
1.49	9.6	149.6	520	18.0	63.1	34.1	2.576	16.1	1269	21.1
1.49	9.6	149.6	520	19.0	79.4	35.1	3.243	16.1	1421	23.8
1.49	9.6	149.6	520	20.0	100.0	36.1	4.064	16.1	1592	26.6
1.49	9.6	149.6	520	21.0	125.9	37.0	5.035	16.0	1774	29.6
1.49	9.6	149.6	520	22.0	158.5	37.9	6.209	15.9	1969	32.9
1.49	9.6	149.6	520	23.0	199.5	38.8	7.621	15.8	2182	36.4
1.49	9.6	149.6	520	24.0	251.2	39.7	9.226	15.7	2403	40.0
1.49	9.6	149.6	520	25.0	316.2	40.4	10.990	15.4	2626	43.6
1.49	9.6	149.6	520	26.0	398.1	41.1	12.764	15.1	2838	46.9
1.49	9.6	149.6	520	27.0	501.2	41.6	14.521	14.6	3036	49.8
1.49	9.6	149.6	520	28.0	631.0	42.1	16.218	14.1	3216	52.5
1.49	9.6	149.6	520	29.0	794.3	42.5	17.865	13.5	3384	55.0
1.49	9.6	149.6	520	30.0	1000.0	42.9	19.364	12.9	3530	57.1

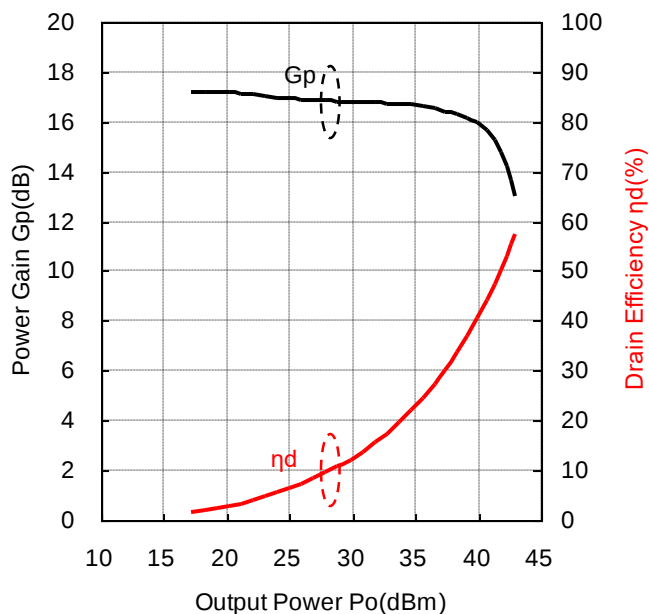
Input-Output Characteristics $V_{ds}=9.6V$, $I_{bias}=350mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=343.8mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=343.8mA$

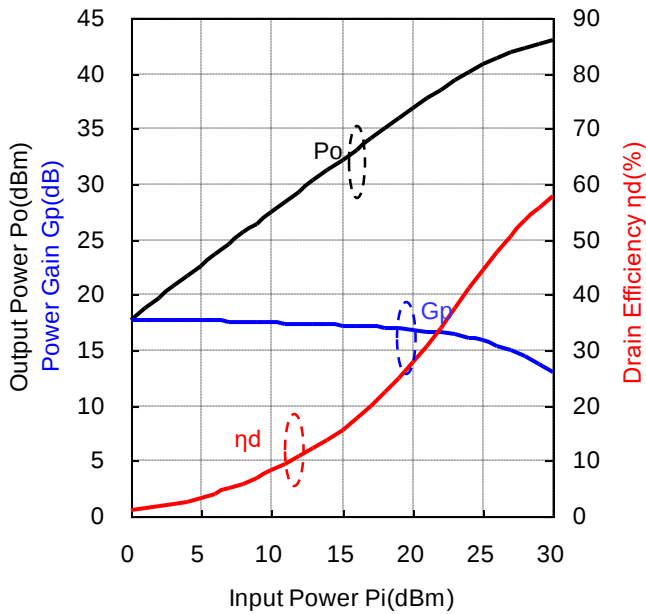
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	I _{ds} (mA)	η _d (%)
1.62	9.6	343.8	520	0.0	1.0	17.2	0.053	17.2	367	1.5
1.62	9.6	343.8	520	1.0	1.3	18.2	0.066	17.2	370	1.9
1.62	9.6	343.8	520	2.0	1.6	19.2	0.083	17.2	379	2.3
1.62	9.6	343.8	520	3.0	2.0	20.2	0.104	17.2	387	2.8
1.62	9.6	343.8	520	4.0	2.5	21.1	0.128	17.1	401	3.3
1.62	9.6	343.8	520	5.0	3.2	22.1	0.161	17.1	420	4.0
1.62	9.6	343.8	520	6.0	4.0	23.0	0.200	17.0	443	4.7
1.62	9.6	343.8	520	7.0	5.0	24.0	0.250	17.0	474	5.5
1.62	9.6	343.8	520	8.0	6.3	24.9	0.311	16.9	512	6.3
1.62	9.6	343.8	520	9.0	7.9	25.9	0.386	16.9	555	7.3
1.62	9.6	343.8	520	10.0	10.0	26.9	0.488	16.9	608	8.3
1.62	9.6	343.8	520	11.0	12.6	27.8	0.608	16.8	669	9.5
1.62	9.6	343.8	520	12.0	15.8	28.8	0.762	16.8	738	10.8
1.62	9.6	343.8	520	13.0	20.0	29.8	0.959	16.8	820	12.2
1.62	9.6	343.8	520	14.0	25.1	30.8	1.194	16.8	907	13.7
1.62	9.6	343.8	520	15.0	31.6	31.8	1.503	16.8	1011	15.5
1.62	9.6	343.8	520	16.0	39.8	32.7	1.879	16.7	1124	17.4
1.62	9.6	343.8	520	17.0	50.1	33.7	2.344	16.7	1251	19.5
1.62	9.6	343.8	520	18.0	63.1	34.7	2.931	16.7	1392	21.9
1.62	9.6	343.8	520	19.0	79.4	35.6	3.639	16.6	1547	24.5
1.62	9.6	343.8	520	20.0	100.0	36.5	4.508	16.5	1718	27.3
1.62	9.6	343.8	520	21.0	125.9	37.4	5.521	16.4	1898	30.3
1.62	9.6	343.8	520	22.0	158.5	38.3	6.792	16.3	2098	33.7
1.62	9.6	343.8	520	23.0	199.5	39.2	8.222	16.2	2309	37.1
1.62	9.6	343.8	520	24.0	251.2	40.0	9.886	16.0	2529	40.7
1.62	9.6	343.8	520	25.0	316.2	40.7	11.641	15.7	2745	44.2
1.62	9.6	343.8	520	26.0	398.1	41.3	13.397	15.3	2947	47.4
1.62	9.6	343.8	520	27.0	501.2	41.8	15.136	14.8	3134	50.3
1.62	9.6	343.8	520	28.0	631.0	42.3	16.788	14.3	3305	52.9
1.62	9.6	343.8	520	29.0	794.3	42.7	18.408	13.7	3461	55.4
1.62	9.6	343.8	520	30.0	1000.0	43.0	19.861	13.0	3599	57.5

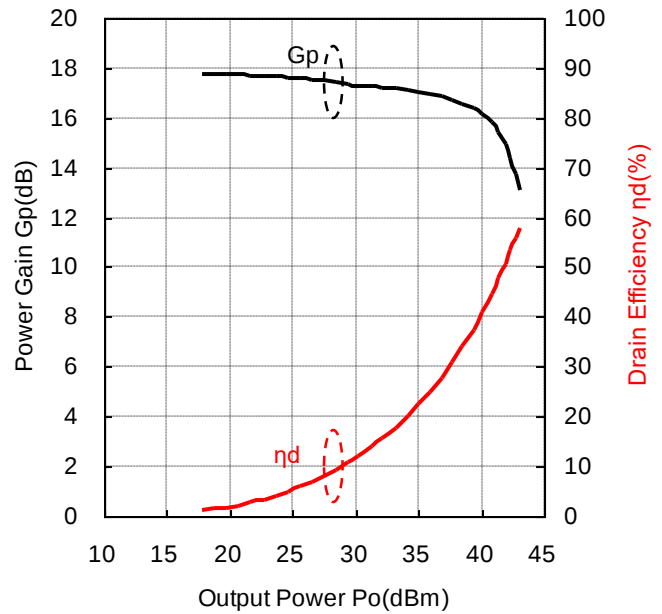
Input-Output Characteristics $V_{ds}=9.6V$, $I_{bias}=550mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=539.4mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=539.4mA$

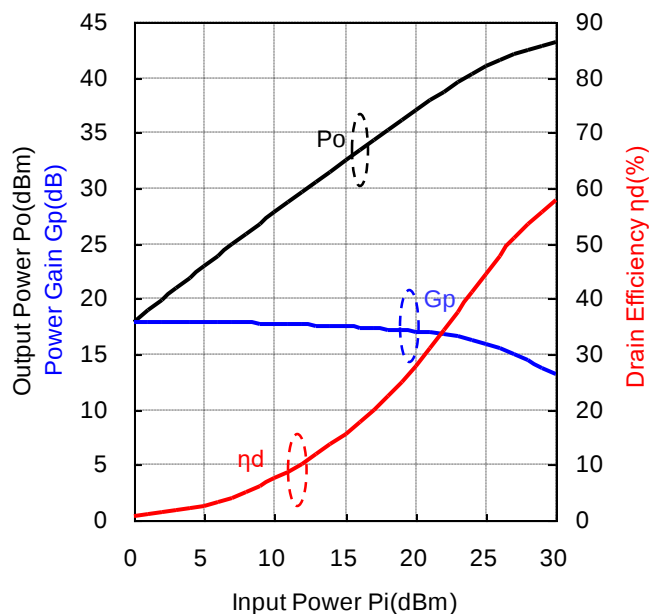
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.73	9.6	539.4	520	0.0	1.0	17.8	0.060	17.8	551	1.1
1.73	9.6	539.4	520	1.0	1.3	18.8	0.075	17.8	553	1.4
1.73	9.6	539.4	520	2.0	1.6	19.7	0.094	17.7	557	1.8
1.73	9.6	539.4	520	3.0	2.0	20.7	0.118	17.7	566	2.2
1.73	9.6	539.4	520	4.0	2.5	21.7	0.148	17.7	574	2.7
1.73	9.6	539.4	520	5.0	3.2	22.7	0.185	17.7	583	3.3
1.73	9.6	539.4	520	6.0	4.0	23.7	0.232	17.7	593	4.1
1.73	9.6	539.4	520	7.0	5.0	24.6	0.288	17.6	614	4.9
1.73	9.6	539.4	520	8.0	6.3	25.6	0.361	17.6	636	5.9
1.73	9.6	539.4	520	9.0	7.9	26.5	0.444	17.5	669	6.9
1.73	9.6	539.4	520	10.0	10.0	27.5	0.558	17.5	712	8.2
1.73	9.6	539.4	520	11.0	12.6	28.4	0.690	17.4	766	9.4
1.73	9.6	539.4	520	12.0	15.8	29.3	0.857	17.3	832	10.7
1.73	9.6	539.4	520	13.0	20.0	30.3	1.067	17.3	909	12.2
1.73	9.6	539.4	520	14.0	25.1	31.3	1.337	17.3	1002	13.9
1.73	9.6	539.4	520	15.0	31.6	32.2	1.652	17.2	1099	15.7
1.73	9.6	539.4	520	16.0	39.8	33.2	2.065	17.2	1216	17.7
1.73	9.6	539.4	520	17.0	50.1	34.1	2.576	17.1	1345	19.9
1.73	9.6	539.4	520	18.0	63.1	35.0	3.192	17.0	1488	22.3
1.73	9.6	539.4	520	19.0	79.4	36.0	3.936	17.0	1644	24.9
1.73	9.6	539.4	520	20.0	100.0	36.8	4.819	16.8	1810	27.7
1.73	9.6	539.4	520	21.0	125.9	37.7	5.888	16.7	1993	30.8
1.73	9.6	539.4	520	22.0	158.5	38.5	7.161	16.5	2191	34.0
1.73	9.6	539.4	520	23.0	199.5	39.4	8.650	16.4	2402	37.5
1.73	9.6	539.4	520	24.0	251.2	40.1	10.328	16.1	2617	41.1
1.73	9.6	539.4	520	25.0	316.2	40.8	12.106	15.8	2829	44.6
1.73	9.6	539.4	520	26.0	398.1	41.4	13.836	15.4	3026	47.6
1.73	9.6	539.4	520	27.0	501.2	41.9	15.631	14.9	3207	50.8
1.73	9.6	539.4	520	28.0	631.0	42.4	17.258	14.4	3372	53.3
1.73	9.6	539.4	520	29.0	794.3	42.7	18.793	13.7	3518	55.6
1.73	9.6	539.4	520	30.0	1000.0	43.1	20.230	13.1	3653	57.7

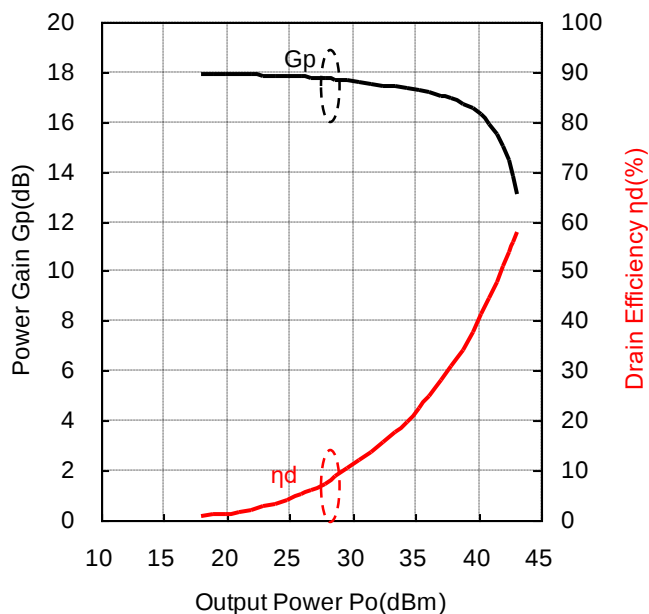
Input-Output Characteristics $V_{ds}=9.6V$, $I_{bias}=750mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=735.3mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=735.3mA$

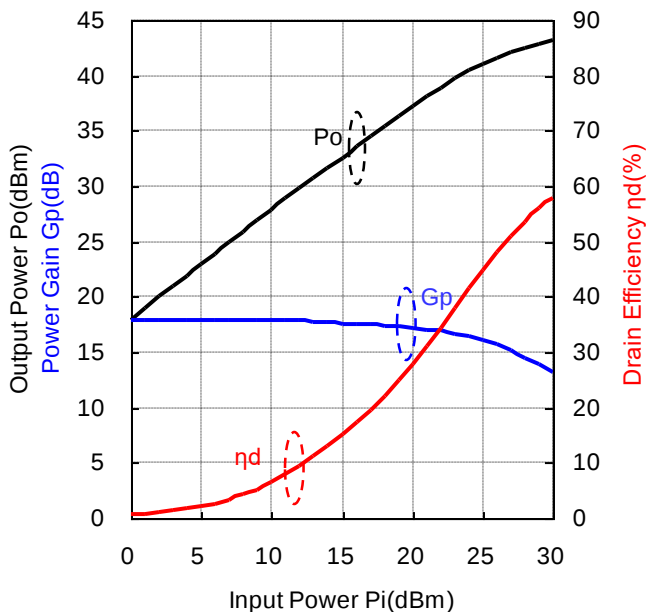
Data

Vgs (V)	Vds (V)	Ibias (mA)	f (MHz)	Pi (dBm)	Pi (mW)	Po (dBm)	Po (W)	Gp (dB)	I _{ds} (mA)	η _d (%)
1.82	9.6	735.3	520	0.0	1.0	17.9	0.062	17.9	741	0.9
1.82	9.6	735.3	520	1.0	1.3	18.9	0.078	17.9	748	1.1
1.82	9.6	735.3	520	2.0	1.6	19.9	0.098	17.9	748	1.4
1.82	9.6	735.3	520	3.0	2.0	20.9	0.124	17.9	751	1.7
1.82	9.6	735.3	520	4.0	2.5	21.9	0.154	17.9	757	2.1
1.82	9.6	735.3	520	5.0	3.2	22.9	0.194	17.9	764	2.6
1.82	9.6	735.3	520	6.0	4.0	23.9	0.243	17.9	770	3.3
1.82	9.6	735.3	520	7.0	5.0	24.9	0.306	17.9	778	4.1
1.82	9.6	735.3	520	8.0	6.3	25.9	0.385	17.9	795	5.0
1.82	9.6	735.3	520	9.0	7.9	26.8	0.476	17.8	811	6.1
1.82	9.6	735.3	520	10.0	10.0	27.8	0.600	17.8	842	7.4
1.82	9.6	735.3	520	11.0	12.6	28.7	0.740	17.7	877	8.8
1.82	9.6	735.3	520	12.0	15.8	29.6	0.920	17.6	932	10.3
1.82	9.6	735.3	520	13.0	20.0	30.6	1.138	17.6	998	11.9
1.82	9.6	735.3	520	14.0	25.1	31.5	1.413	17.5	1081	13.6
1.82	9.6	735.3	520	15.0	31.6	32.5	1.762	17.5	1180	15.6
1.82	9.6	735.3	520	16.0	39.8	33.4	2.183	17.4	1291	17.6
1.82	9.6	735.3	520	17.0	50.1	34.3	2.698	17.3	1417	19.8
1.82	9.6	735.3	520	18.0	63.1	35.3	3.350	17.3	1562	22.3
1.82	9.6	735.3	520	19.0	79.4	36.2	4.140	17.2	1721	25.1
1.82	9.6	735.3	520	20.0	100.0	37.1	5.082	17.1	1892	28.0
1.82	9.6	735.3	520	21.0	125.9	37.9	6.180	16.9	2074	31.0
1.82	9.6	735.3	520	22.0	158.5	38.7	7.482	16.7	2272	34.3
1.82	9.6	735.3	520	23.0	199.5	39.5	8.995	16.5	2482	37.8
1.82	9.6	735.3	520	24.0	251.2	40.3	10.691	16.3	2695	41.3
1.82	9.6	735.3	520	25.0	316.2	40.9	12.417	15.9	2898	44.6
1.82	9.6	735.3	520	26.0	398.1	41.5	14.223	15.5	3094	47.9
1.82	9.6	735.3	520	27.0	501.2	42.0	15.959	15.0	3269	50.9
1.82	9.6	735.3	520	28.0	631.0	42.5	17.660	14.5	3430	53.6
1.82	9.6	735.3	520	29.0	794.3	42.8	19.099	13.8	3567	55.8
1.82	9.6	735.3	520	30.0	1000.0	43.1	20.512	13.1	3695	57.8

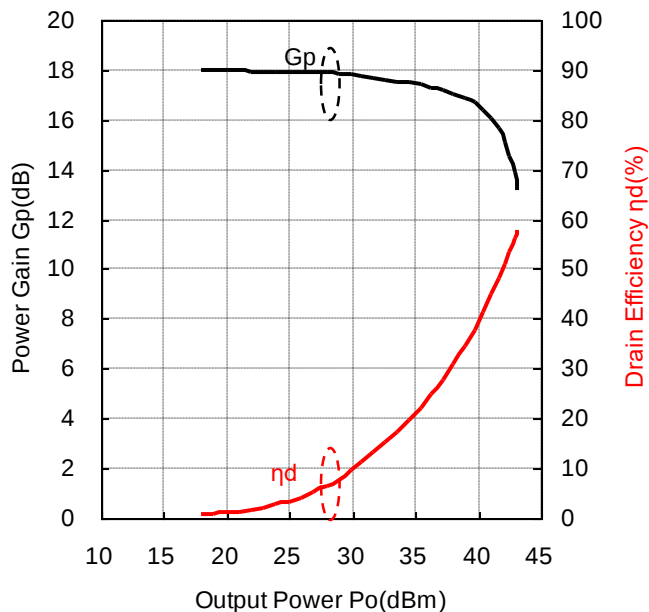
Input-Output Characteristics $V_{ds}=9.6V$, $I_{bias}=950mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=934.3mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=934.3mA$

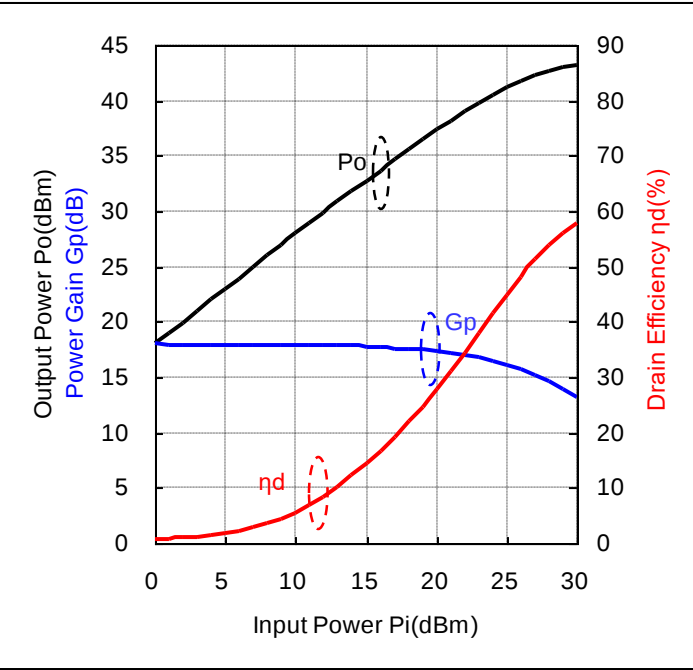
Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
1.91	9.6	934.3	520	0.0	1.0	18.0	0.063	18.0	937	0.7
1.91	9.6	934.3	520	1.0	1.3	19.0	0.079	18.0	936	0.9
1.91	9.6	934.3	520	2.0	1.6	20.0	0.099	18.0	939	1.1
1.91	9.6	934.3	520	3.0	2.0	21.0	0.125	18.0	943	1.4
1.91	9.6	934.3	520	4.0	2.5	21.9	0.156	17.9	947	1.7
1.91	9.6	934.3	520	5.0	3.2	22.9	0.196	17.9	952	2.1
1.91	9.6	934.3	520	6.0	4.0	23.9	0.247	17.9	956	2.7
1.91	9.6	934.3	520	7.0	5.0	24.9	0.310	17.9	959	3.4
1.91	9.6	934.3	520	8.0	6.3	25.9	0.390	17.9	968	4.2
1.91	9.6	934.3	520	9.0	7.9	26.9	0.491	17.9	982	5.2
1.91	9.6	934.3	520	10.0	10.0	27.9	0.618	17.9	1002	6.4
1.91	9.6	934.3	520	11.0	12.6	28.9	0.769	17.9	1025	7.8
1.91	9.6	934.3	520	12.0	15.8	29.8	0.957	17.8	1054	9.5
1.91	9.6	934.3	520	13.0	20.0	30.8	1.191	17.8	1104	11.2
1.91	9.6	934.3	520	14.0	25.1	31.7	1.479	17.7	1173	13.1
1.91	9.6	934.3	520	15.0	31.6	32.6	1.828	17.6	1260	15.1
1.91	9.6	934.3	520	16.0	39.8	33.5	2.265	17.5	1366	17.3
1.91	9.6	934.3	520	17.0	50.1	34.5	2.812	17.5	1492	19.6
1.91	9.6	934.3	520	18.0	63.1	35.4	3.475	17.4	1631	22.2
1.91	9.6	934.3	520	19.0	79.4	36.3	4.266	17.3	1786	24.9
1.91	9.6	934.3	520	20.0	100.0	37.2	5.248	17.2	1959	27.9
1.91	9.6	934.3	520	21.0	125.9	38.1	6.397	17.1	2146	31.0
1.91	9.6	934.3	520	22.0	158.5	38.9	7.762	16.9	2346	34.5
1.91	9.6	934.3	520	23.0	199.5	39.7	9.290	16.7	2554	37.9
1.91	9.6	934.3	520	24.0	251.2	40.4	11.015	16.4	2768	41.5
1.91	9.6	934.3	520	25.0	316.2	41.1	12.823	16.1	2971	45.0
1.91	9.6	934.3	520	26.0	398.1	41.6	14.588	15.6	3156	48.1
1.91	9.6	934.3	520	27.0	501.2	42.1	16.293	15.1	3327	51.0
1.91	9.6	934.3	520	28.0	631.0	42.5	17.906	14.5	3480	53.6
1.91	9.6	934.3	520	29.0	794.3	42.9	19.454	13.9	3616	56.0
1.91	9.6	934.3	520	30.0	1000.0	43.2	20.749	13.2	3733	57.9

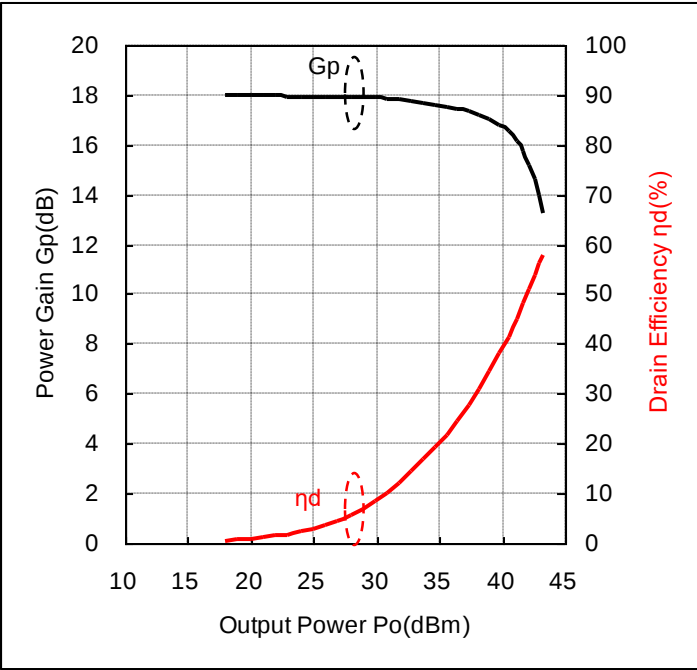
Input-Output Characteristics $V_{ds}=9.6V$, $I_{bias}=1150mA$ - Condition

Graph

Output Power, Power Gain, Drain Efficiency vs Input Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=1132.6mA$

Power Gain, Drain Efficiency vs Output Power

@ $f=520MHz$, $V_{ds}=9.6V$, $I_{bias}=1132.6mA$

Data

V_{gs} (V)	V_{ds} (V)	I_{bias} (mA)	f (MHz)	P_i (dBm)	P_i (mW)	P_o (dBm)	P_o (W)	G_p (dB)	I_{ds} (mA)	η_d (%)
2.00	9.6	1132.6	520	0.0	1.0	18.0	0.063	18.0	1137	0.6
2.00	9.6	1132.6	520	1.0	1.3	19.0	0.079	18.0	1143	0.7
2.00	9.6	1132.6	520	2.0	1.6	20.0	0.099	18.0	1142	0.9
2.00	9.6	1132.6	520	3.0	2.0	21.0	0.125	18.0	1140	1.1
2.00	9.6	1132.6	520	4.0	2.5	22.0	0.157	18.0	1143	1.4
2.00	9.6	1132.6	520	5.0	3.2	22.9	0.196	17.9	1150	1.8
2.00	9.6	1132.6	520	6.0	4.0	23.9	0.248	17.9	1154	2.2
2.00	9.6	1132.6	520	7.0	5.0	24.9	0.311	17.9	1158	2.8
2.00	9.6	1132.6	520	8.0	6.3	25.9	0.393	17.9	1162	3.5
2.00	9.6	1132.6	520	9.0	7.9	26.9	0.494	17.9	1169	4.4
2.00	9.6	1132.6	520	10.0	10.0	27.9	0.622	17.9	1182	5.5
2.00	9.6	1132.6	520	11.0	12.6	28.9	0.774	17.9	1197	6.7
2.00	9.6	1132.6	520	12.0	15.8	29.9	0.975	17.9	1219	8.3
2.00	9.6	1132.6	520	13.0	20.0	30.8	1.213	17.8	1249	10.1
2.00	9.6	1132.6	520	14.0	25.1	31.8	1.521	17.8	1293	12.2
2.00	9.6	1132.6	520	15.0	31.6	32.8	1.888	17.8	1362	14.4
2.00	9.6	1132.6	520	16.0	39.8	33.7	2.333	17.7	1453	16.7
2.00	9.6	1132.6	520	17.0	50.1	34.6	2.891	17.6	1567	19.2
2.00	9.6	1132.6	520	18.0	63.1	35.5	3.581	17.5	1705	21.9
2.00	9.6	1132.6	520	19.0	79.4	36.4	4.406	17.4	1859	24.7
2.00	9.6	1132.6	520	20.0	100.0	37.3	5.395	17.3	2028	27.7
2.00	9.6	1132.6	520	21.0	125.9	38.2	6.607	17.2	2219	31.0
2.00	9.6	1132.6	520	22.0	158.5	39.0	7.998	17.0	2421	34.4
2.00	9.6	1132.6	520	23.0	199.5	39.8	9.572	16.8	2626	38.0
2.00	9.6	1132.6	520	24.0	251.2	40.5	11.298	16.5	2835	41.5
2.00	9.6	1132.6	520	25.0	316.2	41.2	13.092	16.2	3034	44.9
2.00	9.6	1132.6	520	26.0	398.1	41.7	14.894	15.7	3217	48.2
2.00	9.6	1132.6	520	27.0	501.2	42.2	16.634	15.2	3384	51.2
2.00	9.6	1132.6	520	28.0	631.0	42.6	18.239	14.6	3530	53.8
2.00	9.6	1132.6	520	29.0	794.3	43.0	19.724	14.0	3662	56.1
2.00	9.6	1132.6	520	30.0	1000.0	43.2	20.989	13.2	3772	58.0

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