

250-600MHz,30W, 28V, 2 stage UHF Pallet

Description

I2A30H0206 is a rugged 28V 30W RF LDMOS Amplifier Module operating in the 250 to 600MHz range.

This module is designed for non-linear modulation, but may also be used for linear modulation by setting the drain quiescent current with the gate voltage and controlling the output power with the input power

Features

- Rugged LDMOS technology with ITGV20080C6 and ITGV22010P3
- $P_{out} > 30W$ (CW), $Eff > 45\%$ @ $V_{ds} = 28V$
- Broadband Frequency Range: 250-600MHz
- Size: 47.5 x 18.4 x 9.9 mm
- DC block capacitor integrated
- Linear and non linear operation supported

Table 1. Maximum Ratings

Rating	Symbol	Value	Unit
Drain--Source Voltage	V_{DS}	+115	Vdc
Gate--Source Voltage	V_{GS}	-10 to +10	Vdc
Operating Voltage	V_{DD}	+32	Vdc
Storage Temperature Range	T_{stg}	-65 to +150	°C
Case Operating Temperature	T_c	+150	°C
Operating Junction Temperature	T_J	+225	°C

Figure 1: Network analyzer Output S11/S21

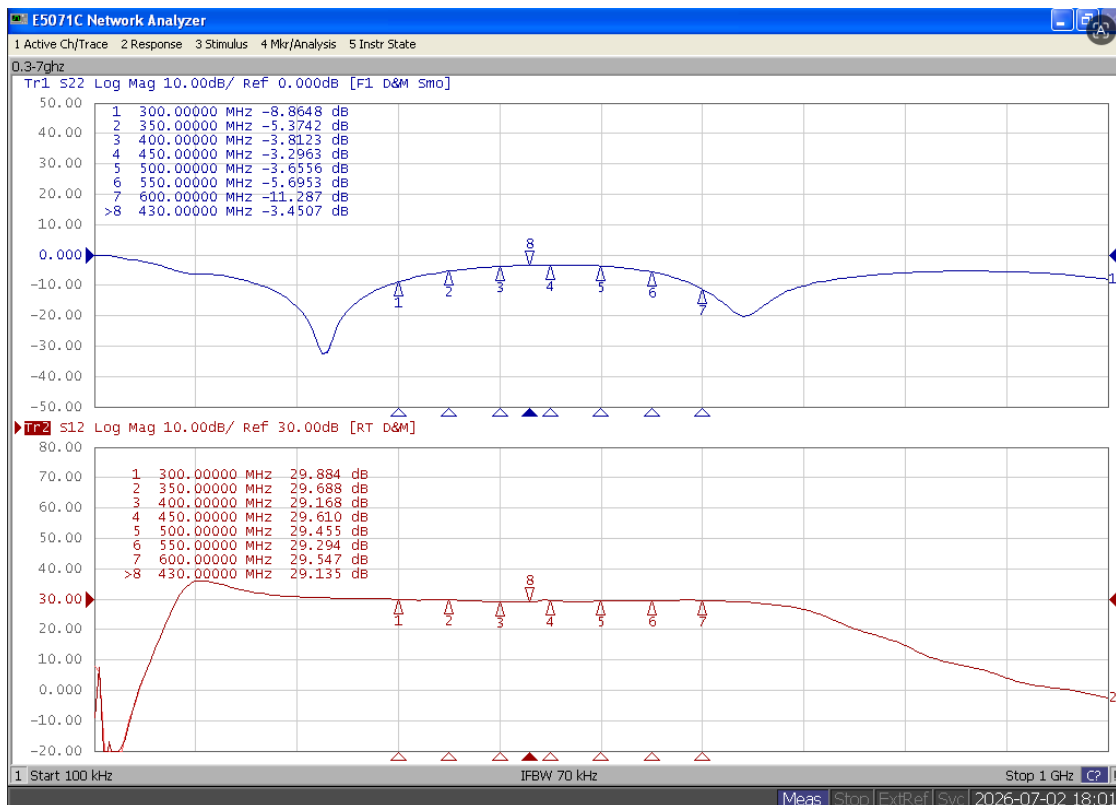
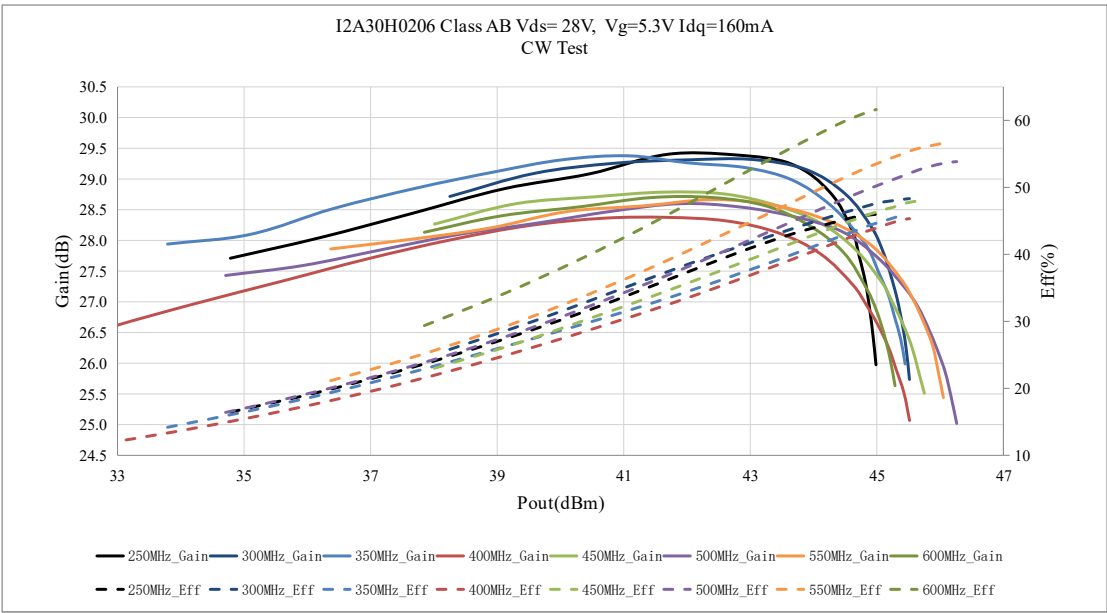


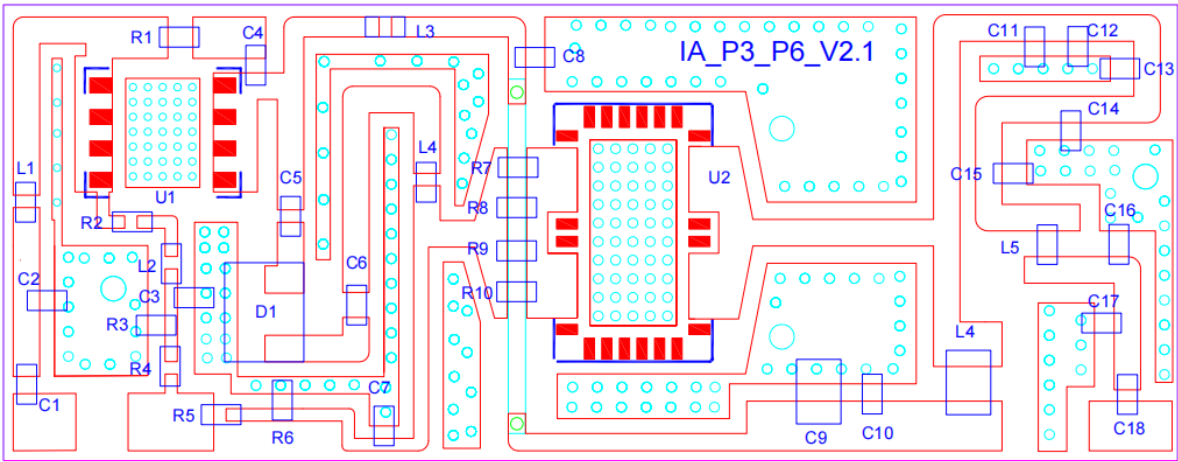
Figure 2: CW Power gain, Efficiency as function of output Power



1.

I2A30H0206 Class AB Vds= 28V, Vg=5.3V Idq=160mA CW Test							
Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff (%)	P1dB Gain (dB)	P3dB (dBm)	P3dB (W)	P3dB Eff (%)
250	44.47	28.0	45.1	28.41	44.94	31.2	46.0
300	44.83	30.4	47.2	28.33	45.45	35.1	48.4
350	44.43	27.7	42.7	28.4	45.38	34.5	45.8
400	44.5	28.2	42.3	27.39	45.45	35.1	45.2
450	44.7	29.5	45.4	27.8	45.68	37.0	48.0
500	45.11	32.4	50.6	27.61	46.14	41.1	53.7
550	45.11	32.5	53.9	27.68	46.01	39.9	56.6
600	44.53	28.4	60.0	27.71	45.27	33.7	61.9

Figure 3: Test circuit



Comment	Designator	Footprint	Quantity
68PF	C1, C5, C6, C10, C18	Beijing Yuan Lu 0603	5
5.6PF	C2	Beijing Yuan Lu 0603	1
2.2UF	C3, C7, C8	0603/100V	3
3PF	C4	Beijing Yuan Lu 0603	1
10UF	C9	1210/100V	1
2.2PF	C11, C17	Beijing Yuan Lu 0603	2
3.9PF	C12, C14	Beijing Yuan Lu 0603	2
6.8PF	C13	Beijing Yuan Lu 0603	1
3.3PF	C15	Beijing Yuan Lu 0603	1
0.5PF	C16	Beijing Yuan Lu 0603	1
2.2NH	L1	0603	1
10NH	L2	0603	1
47NH	L3	0603	1
36NH	L4	TB__0.35mm*1.5mm*6T	1
14.5NH	L5	TB__0.35mm*1.4mm*2.5T	1
200 Ω	R1	0805	1
10 Ω	R2, R7, R8, R9, R10	0603	5
2.4K	R3, R6	0603	2
1.3K	R4, R5	0603	2
1dB	D1	FAC0601	1
ITGV22010P3	U1	DFN 6*5	1
ITGV20080C6	U2	QFN 10*6	1

Revision history

Table 5. Document revision history

Date	Revision	Datasheet Status
2026/7/3	Rev 1.0	Advanced Datasheet Creation

Application data based on LBG-26-27

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