

450-750MHz,30W, 28V, 2 stage UHF Pallet

Description

S2A30H0407 is a rugged 28V 30W RF GaN Amplifier Module operating in the 450 to 750MHz 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 GaN technology with **STAV20080C6** and **STAV58010P2**
- Pout>30W (CW), Eff>55% @ Vds=28V
- Broadband Frequency Range: 450-750MHz
- 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}	150	Vdc
Gate--Source Voltage	V_{GS}	-10 to +2	Vdc
Operating Voltage	V_{DD}	+36	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

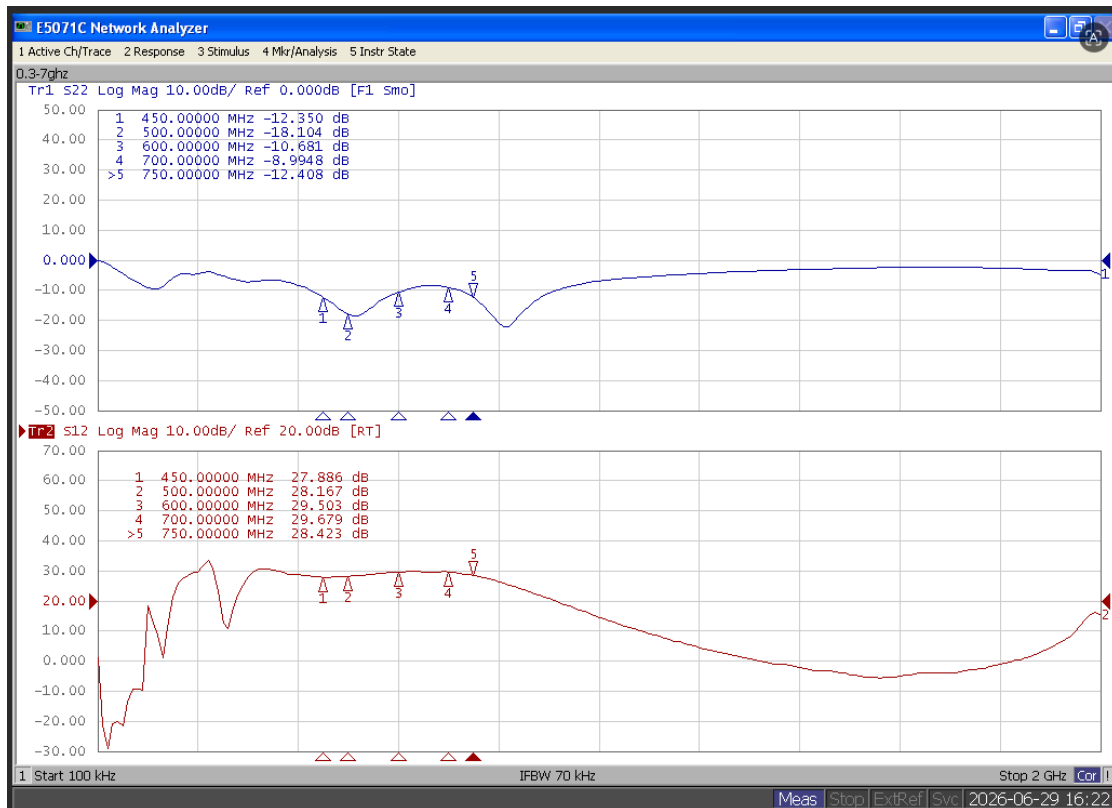
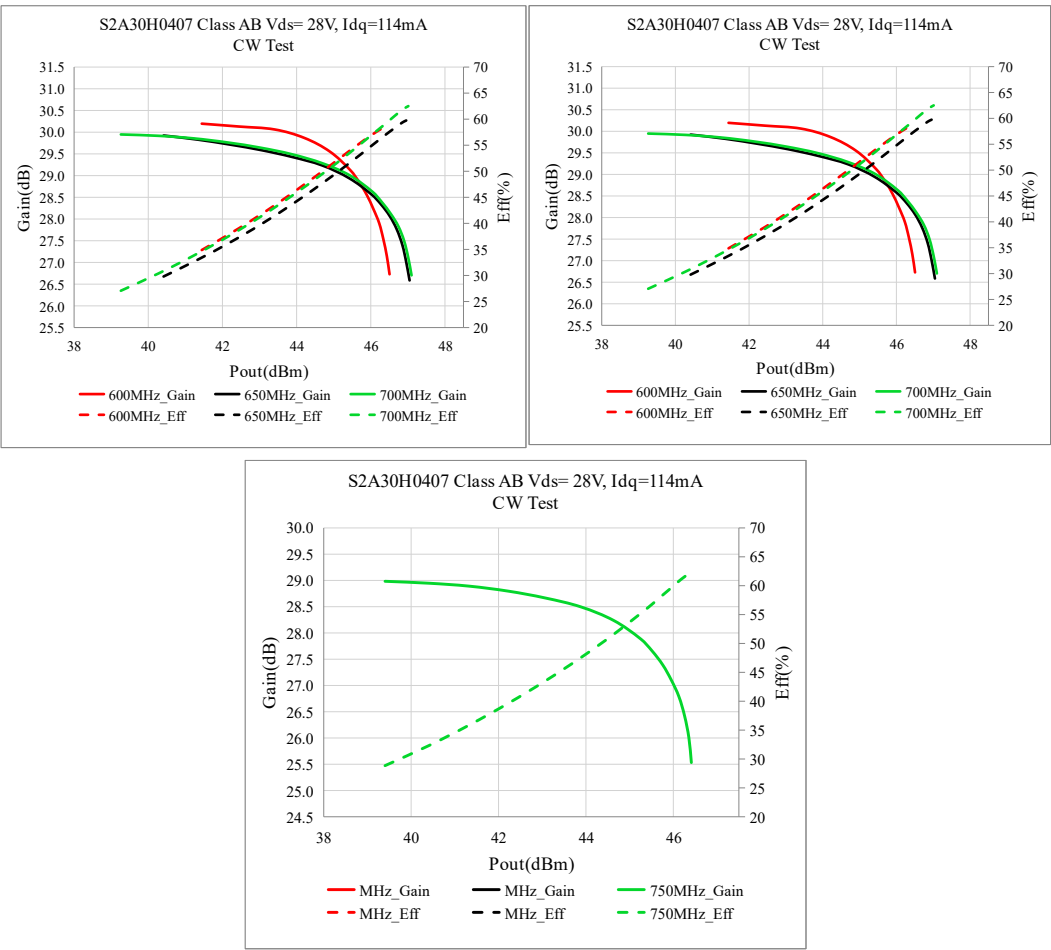
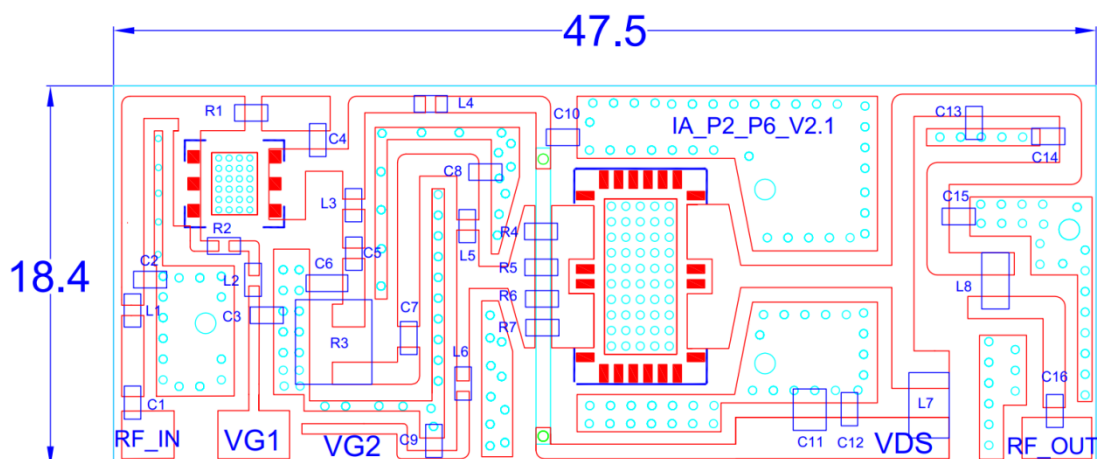


Figure 2: CW Power gain, Efficiency as function of output Power



S2A30H0407 Class AB Vds= 28V, Idq=114mA CW Test							
Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff (%)	P1dB Gain (dB)	P3dB (dBm)	P3dB (W)	P3dB Eff (%)
450	44.32	27.0	54.1	27.91	45.26	33.6	58.4
500	44.95	31.2	55.9	28.48	46	39.9	61.5
550	44.83	30.4	51.3	28.22	45.77	37.8	55.4
600	45.34	34.2	53.4	29.21	46.42	43.8	58.6
650	45.41	34.8	51.5	28.94	46.97	49.8	59.8
700	45.5	35.5	53.9	28.97	47.04	50.6	62.6
750	45.06	32.0	54.1	28	46.36	43.2	62.1

Figure 3: Test circuit



1.

Comment	Designator	Footprint	Quantity
68PF	C1,C3,C5,C7,C9,C10,C12,C16	Beijing Yuan Lu 0603	8
1.8PF	C2	Beijing Yuan Lu 0603	1
3PF	C4	Beijing Yuan Lu 0603	1
3.9PF	C6	Beijing Yuan Lu 0603	1
0.5PF	C8	Beijing Yuan Lu 0603	1
10UF	C11	1210	1
0.9PF	C13	Beijing Yuan Lu 0603	1
5.6PF	C14	Beijing Yuan Lu 0603	1
3.3PF	C15	Beijing Yuan Lu 0603	1
2.2NH	L1,L3	0603	2
5.6NH	L2,L5	0603	2
18NH	L4	0603	1
22NH	L6	0603	1
36NH	L7	TB_0.35mm*1.5mm*6T	1
14.5NH	L8	TB_0.35mm*1.4mm*2.5T	1
200Ω	R1	0603	1
10Ω	R2,R4,R5,R6,R7	0603	5
1dB	R3	FAC0601	1
STAV58010P2	U1	DFN 4.5*4	1
STA20080C6	U2	QFN 10*6	1

Revision history

Table 5. Document revision history

Date	Revision	Datasheet Status
2026/6/30	Rev 1.0	Advanced Datasheet Creation

Application data based on LBG-26-06

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