

RXT-25-34**STAH60100BY4****STAH60100BY4 Class AB 3000~5000MHz****Oct. 21, 2025****Introduction**

This amplifier is designed with Innegration 28V GaN transistor.

Demo and Transistor

Frequencyband	: 3000~5000MHz
Application	: Multi Market
Configuration	: Class AB
Test Signal	: CW
Transistor	: STAH60100BY4
Date code	: 251517
PCB	: Rogers 4350B, 30mil

The amplifier has been characterized under the following conditions:

- Network Analyzer plots for gain and IRL.
- The output power measurement using CW.

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Test Results

1. Summary @ Bench(Chengdu)

$V_{ds} = 28\text{ V}$, $V_{gs} = -3.06\text{ V}$, $I_{dq} = 200\text{ mA}$ Signal mode: CW

GMAH1562-20C9 with 3-5G isolator recommended as the driver

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	Ids(A)	Gain(dB)	Eff (%)
3000	42.0	49.67	92.7	6.85	7.7	48.3
3100	42.0	49.72	93.8	6.54	7.7	51.2
3200	42.0	49.98	99.5	6.14	8.0	57.9
3300	42.0	50.17	104.0	6.15	8.2	60.4
3400	42.0	50.27	106.4	6.07	8.3	62.6
3500	42.0	49.94	98.6	6.08	7.9	57.9
3600	42.0	50.10	102.3	6.30	8.1	58.0
3700	42.0	50.05	101.2	6.58	8.1	54.9
3800	42.0	50.20	104.7	7.03	8.2	53.2
3900	42.0	50.20	104.7	7.18	8.2	52.1
4000	42.0	50.43	110.4	7.36	8.4	53.6
4100	42.0	50.47	111.4	8.28	8.5	48.1
4200	42.0	50.41	109.9	8.21	8.4	47.8
4300	42.0	50.23	105.4	8.17	8.2	46.1
4400	42.0	50.15	103.5	7.95	8.2	46.5
4500	42.0	50.08	101.9	7.84	8.1	46.4
4600	42.0	49.95	98.9	7.86	8.0	44.9
4700	42.0	49.82	95.9	7.42	7.8	46.2
4800	42.0	49.67	92.7	7.17	7.7	46.2
4900	42.0	49.49	88.9	6.68	7.5	47.5
5000	42.0	49.18	82.8	6.21	7.2	47.6

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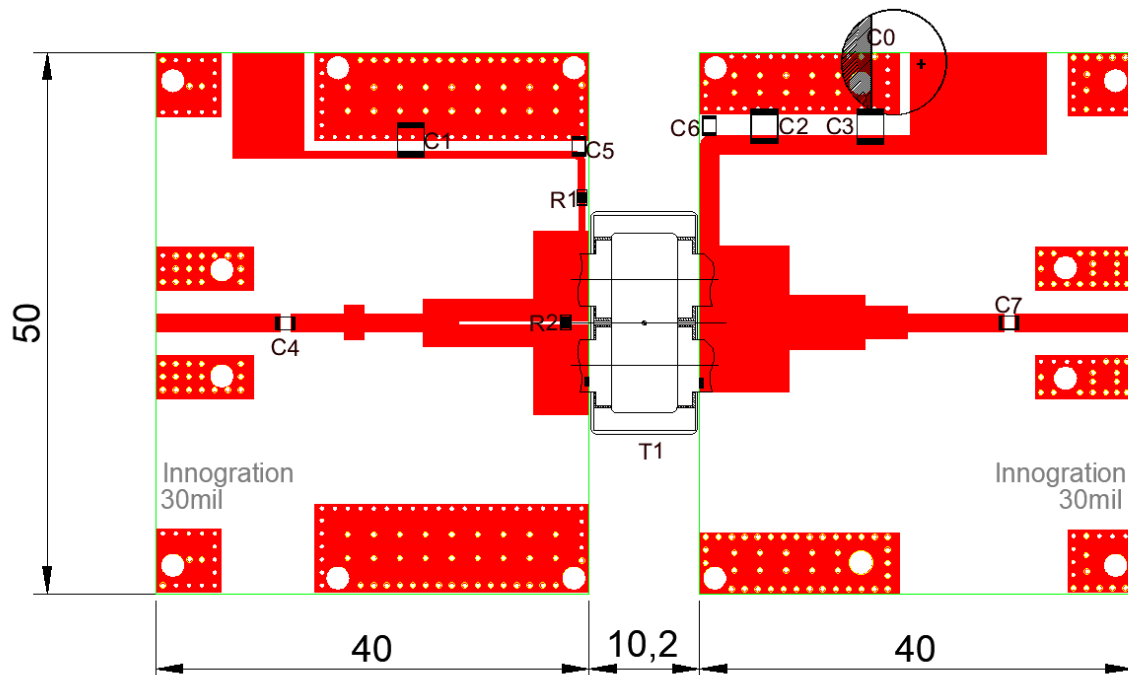
2. Network Results

Test Condition

$$V_{ds} = 28 \text{ V}, V_{gs} = -2.98 \text{ V}, I_{dq} = 500 \text{ mA input power} = 0 \text{ dBm}$$



BOM of Test Circuit



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Reference Designator	Description	Quantity	Suggestion
C0	470uF/100V	1	Electrolytic Capacitor
C1, C2, C3	10uF/100V, 1210	3	
C4	6.8 pF, 0805/1111	1	
C5	5.6 pF, 0805/1111	1	
C6, C7	4.3 pF, 0709/1111	2	
R1, R2	10 Ω , 0603/0805	2	Murata
T1	STAH60100BY4	1	Innogrations
PCB	Rogers 4350B, 30mil		-