

SU1532V Class AB 500-2000MHz

Sep.03, 2025

Introduction

This amplifier is designed with Innogrations 50V Gan transistor.

Demo and Transistor

Frequencyband	: 500-2000MHz
Application	: Multi Market
Configuration	: Class AB
Test Signal	: Pulse
Transistor	: SU1532V
Date code	: 231111
PCB	: Rogers4350,20mil

The amplifier has been characterized under the following conditions:

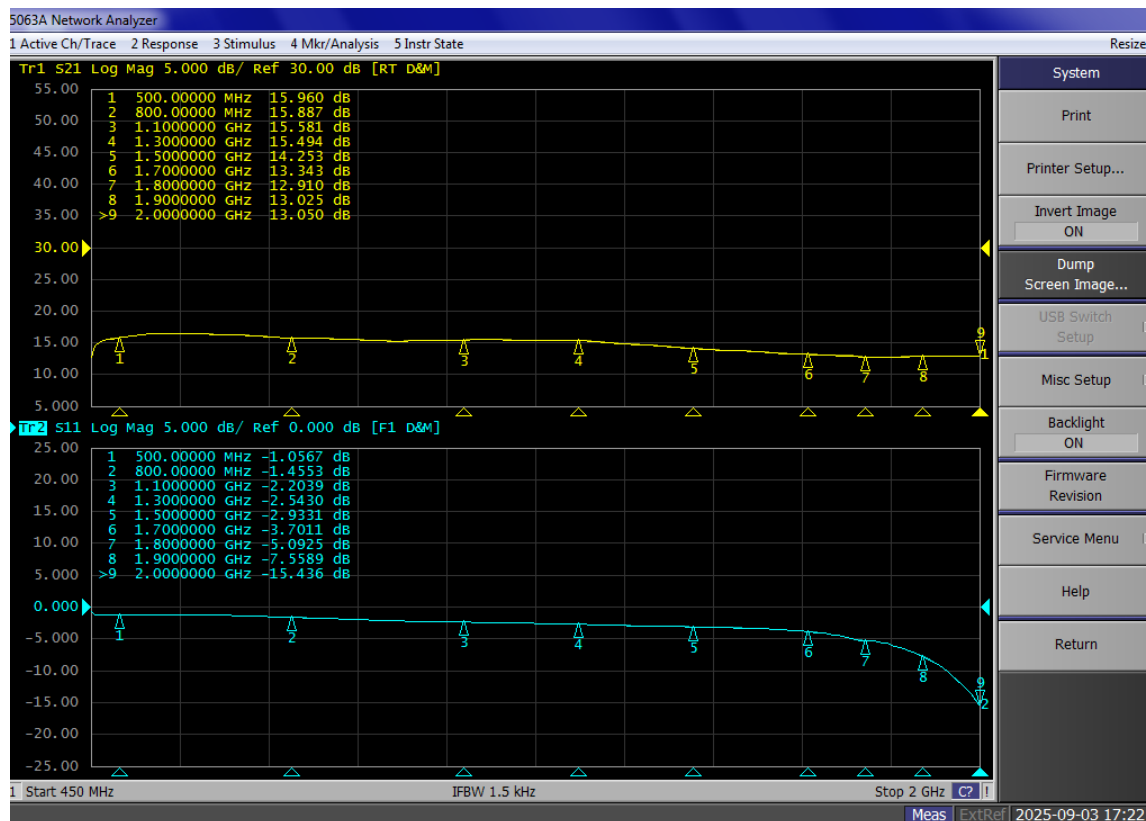
- Network Analyzer plots for gain and IRL.
- The output power measurement using Pulse .

Note: The PA is tested with a supply voltage of $V_{DS} = 50V$, $I_{dq} = 240mA$, all measurements unless otherwise noted.

TC-25-32
SU1532V: 500-2000MHz

1. Network Results

Test Condition

 $V_{ds}=50V$, $V_{gs}=-3.00V$, $I_{dq}=240mA$, Input Power = 0dBm


Test Results

2. Summary @ Bench 2(Chengdu)

(1) Test Condition

Signal mode : Pulse 10%

Frequency : 500-2000MHz

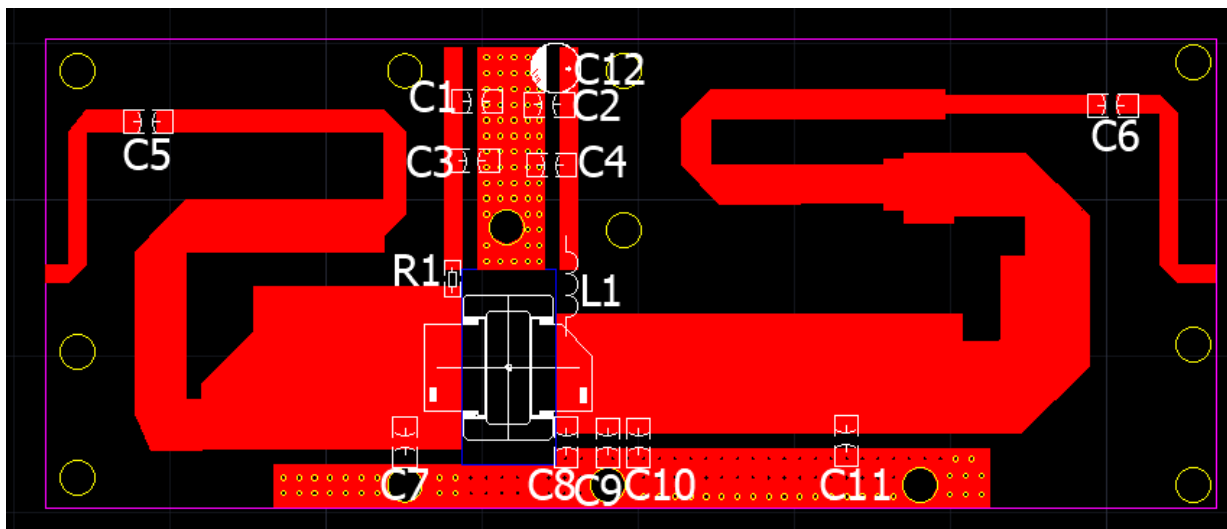
$V_{gs} = -3.00V$, $V_{ds} = 50V$, $I_{dq} = 240mA$

SU1532V VGS=-3.00V VDS=50V IDQ=240mA Pulse 10% 8us								
Freq (MHz)	Psat (dBm)	Psat (W)	IDS (A)	Pin (dBm)	Gain (dB)	Eff(%)	2th (dBc)	3th (dBc)
500	54.28	267.9	0.88	41.22	13.06	60.89	-16.10	-12.40
600	54.62	289.7	0.88	41.01	13.61	65.85	-21.00	-13.20
700	54.50	281.8	0.87	40.80	13.70	64.79	-18.40	-13.30
800	54.21	263.6	0.86	41.00	13.21	61.31	-14.50	-15.30
900	54.42	276.7	0.97	41.34	13.08	57.05	-17.10	-35.60
1000	54.71	295.8	1.01	40.91	13.80	58.57	-19.50	-34.20
1100	54.82	303.4	1.00	42.97	11.85	60.68	-16.00	-26.40
1200	54.75	298.5	0.88	43.42	11.33	67.85	-20.50	-22.70
1300	54.66	292.4	0.80	43.25	11.41	73.10	-33.70	-25.70
1400	54.28	267.9	0.80	43.18	11.10	66.98	-40.90	-26.90
1500	54.35	272.3	0.87	43.30	11.05	62.59	-37.00	-23.20
1600	54.30	269.2	0.89	42.15	12.15	60.48	-33.70	-24.30
1700	54.24	265.5	0.92	41.70	12.54	57.71	-31.50	-30.30
1800	54.30	269.2	0.96	43.25	11.05	56.07	-29.00	-18.80
1900	54.42	276.7	1.00	43.30	11.12	55.34	-29.60	-23.70
2000	54.48	280.5	1.00	43.75	10.73	56.11	-24.40	-24.40

TC-25-32

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BOM of Test Circuit



Component	Description	Suggestion
C1~C2	10uF/200V-1210	TDK
C3,C4	82pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ301111
C5	56pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ400805
C6	12pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ301111
C7,C10,C11	3pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ301111
C8	3.3pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ301111
C9	1.2pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ301111
C11	470uF/63V	Electrolytic Capacitor
L1	1mm wire, 3mm innerdiameter, 2turns	DIY
R1	10 Ω -0805	Chip Resistor
PCB	Rogers4350,20mil	