

YHG-26-31**SL2033VS: 150-1000MHz****SL2033VS Class AB 150-1000MHz****August 21, 2026****Introduction**

This amplifier is designed with Innogrations 50V Gan transistor.

Demo and Transistor

Frequencyband	: 150-1000MHz
Application	: Multi Market
Configuration	: Class AB
Test Signal	: Pulse/CW
Transistor	: SL2033VS
Date code	: 242107
PCB	: F4BTMS1000 ,r=10.2 ,30 mil

The amplifier has been characterized under the following conditions:

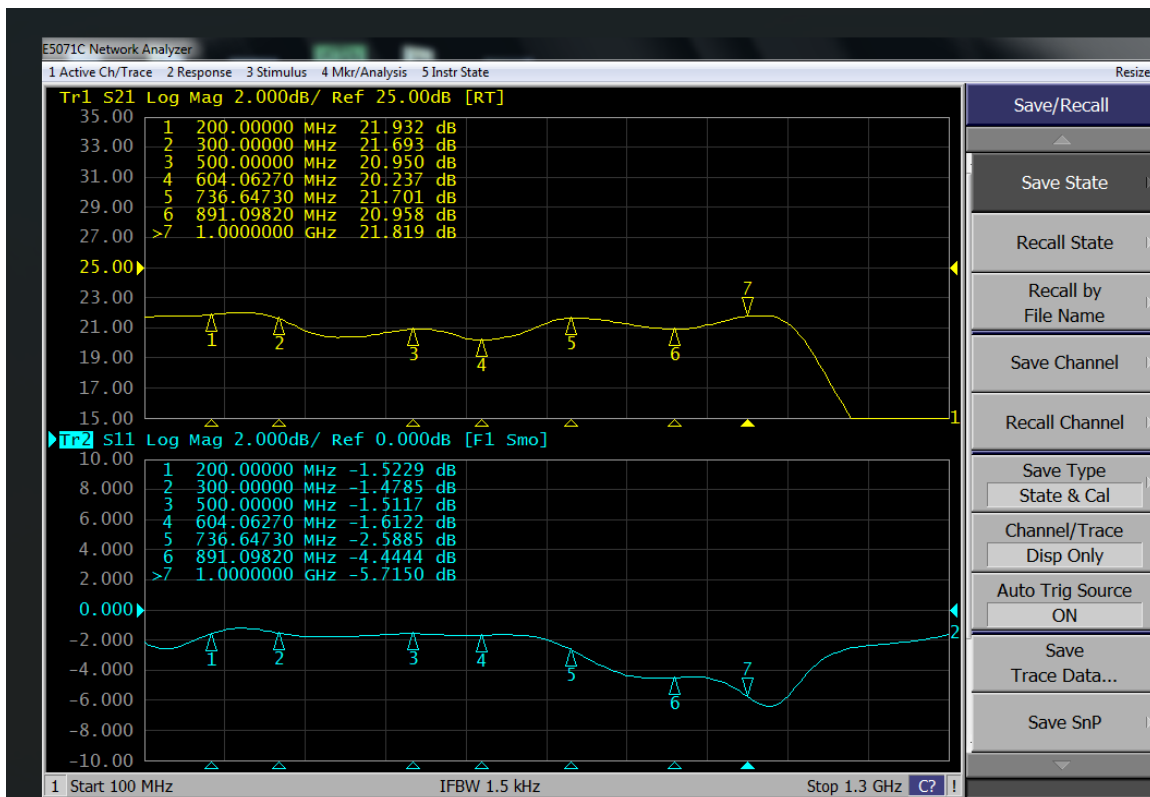
- Network Analyzer plots for gain and IRL.
- The output power measurement using CW .

Note: The PA is tested with a supply voltage of $V_{DS} = 50V$, $I_{dq} = 200mA$, all measurements unless otherwise noted.

YHG-26-31
SL2033VS: 150-1000MHz

1. Network Results

Test Condition

 $V_{ds}=50V$, $V_{gs}=-3.36V$, $I_{dq}=500mA$, Input Power = 0dBm


YHG-26-31

SL2033VS: 150-1000MHz

Test Results

2. Summary @ Bench 2(Chengdu)

(1) Test Condition

Signal mode : Pulse 10% 100us

Frequency : 150-1000MHz

$V_{gs} = -3.44V$, $V_{ds} = 50V$, $I_{dq} = 200mA$

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
150	37.06	53.93	247.17	0.87	16.87	56.82
200	37.99	55.59	362.24	1.05	17.6	69.00
300	36.73	54.6	288.40	0.87	17.87	66.30
400	36.97	55.43	349.14	1.22	18.46	57.24
500	39.3	55.09	322.85	1	15.79	64.57
600	40.12	55.88	387.26	1.11	15.76	69.78
700	39.46	54.95	312.61	0.94	15.49	66.51
800	38.1	54.68	293.76	1.08	16.58	54.40
900	37.33	55.21	331.89	1.26	17.88	52.68
1000	38.38	55.14	326.59	1.2	16.76	54.43

YHG-26-31
SL2033VS: 150-1000MHz
(2) Test Condition

Signal mode : CW

Frequency : 150-1000MHz

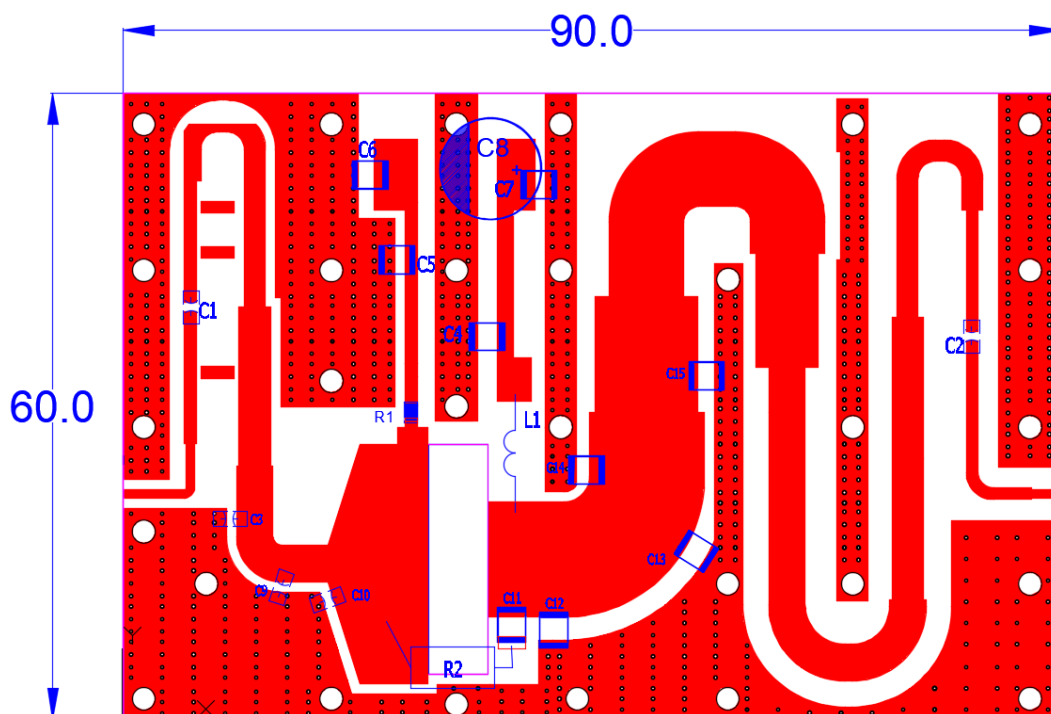
$V_{gs} = -3.44V$, $V_{ds} = 50V$, $I_{dq} = 200mA$

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)	2th	3rd
150	37.56	53.53	225.42	8.09	15.97	55.73	-9.20	-9.70
200	38.19	55.26	335.74	9.84	17.07	68.24	-17.70	-12.70
300	36.43	54.21	263.63	8.06	17.78	65.42	-13.30	-12.90
400	37.17	54.72	296.48	10.85	17.55	54.65	-10.70	-16.00
500	39.6	54.68	293.76	9.27	15.08	63.38	-15.00	-12.80
600	40.42	55.48	353.18	10.52	15.06	67.15	-22.20	-17.30
700	39.76	54.5	281.84	8.92	14.74	63.19	-21.90	-19.60
800	37.8	53.9	245.47	9.75	16.1	50.35	-19.40	-36.40
900	37.43	54.26	266.69	10.86	16.83	49.11	-14.70	-40.00
1000	38.56	54.54	284.45	11.07	15.98	51.39	-19.10	-38.50

YHG-26-31

SL2033VS: 150-1000MHz

BOM of Test Circuit



Component	Description	Suggested Manufacturer
C1	200pF/MQ300805	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.
C2	200pF/ MQ301111	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.
C8	470uF	
C6,C7	10uF	
C4, C5	10nF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.
C11	1000pF/ MQ301111	
C3,	4.7pF/ MQ300805	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
C9	3.6pF/ MQ300805	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
C10	15pF/ MQ301111	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
C12	2.7pF/ MQ301111	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
C13	3.0pF/ MQ301111	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
C14	6.2pF/ MQ301111	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
C15	3.3pF/ MQ301111	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
L1	1mm, 9 turns, diameter :5mm	DIY air core inductance
R2	560,ohm	---
R1	10ohm/1206	Chip Resistor
PCB	F4BTMS1000 ,r=10.2 ,30 mil	