

YHG-26-26**S3U1045VS^{V0}: 150-950MHz****S3U1045VS^{V0} Class AB 150-950MHz****July 23, 2026****Introduction**

This amplifier is designed with Innogrations 50V Gan transistor.

Demo and Transistor

Frequencyband	: 150-950MHz
Application	: Multi Market
Configuration	: Class AB
Test Signal	: Pulse/CW
Transistor	: S3U1045VS ^{V0}
Date code	: 262831S-01
PCB	: F4BTMS1000 ,r=10.2 ,30 mil

The amplifier has been characterized under the following conditions:

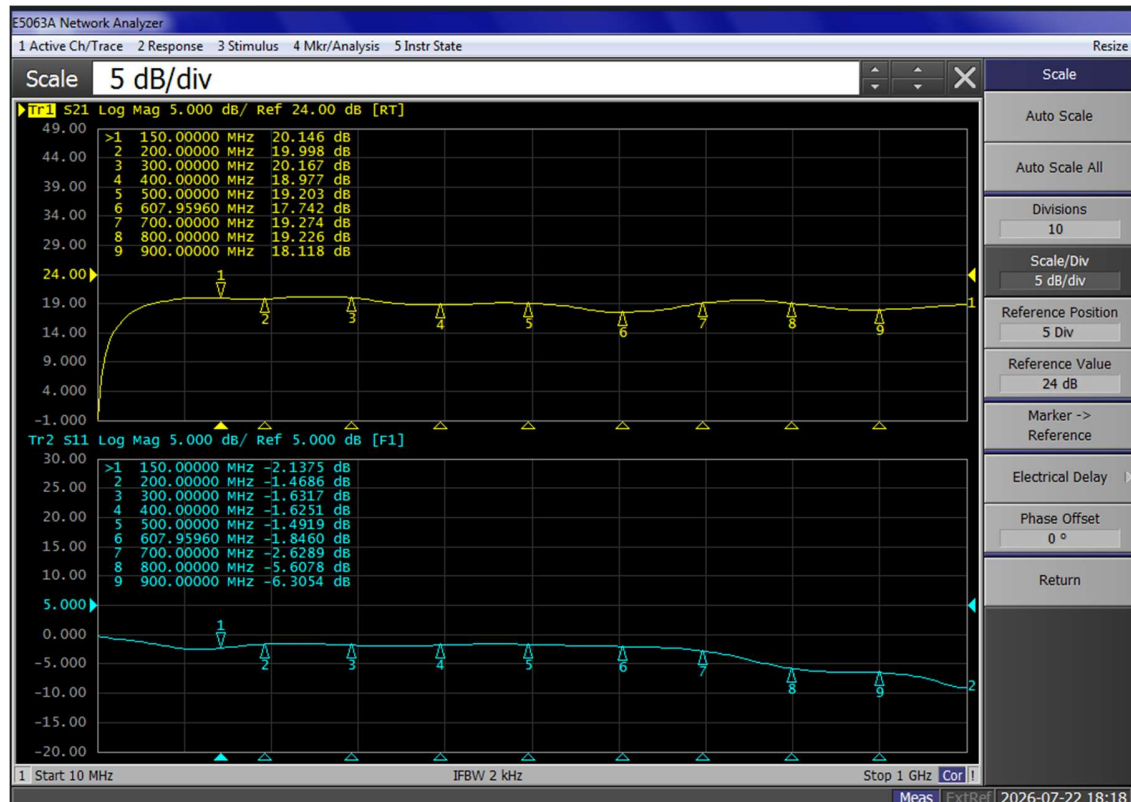
- Network Analyzer plots for gain and IRL.
- The output power measurement using CW .

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

YHG-26-26
S3U1045VS⁰⁰: 150-950MHz

1. Network Results

Test Condition

 $V_{ds}=50V$, $V_{gs}=-2.97V$, $I_{dq}=500mA$, Input Power = 0dBm


YHG-26-26
S3U1045VS⁰⁰: 150-950MHz

Test Results

2. Summary @ Bench 2(Chengdu)

(1) Test Condition

Signal mode : Pulse 10% 100us

Frequency : 150-950MHz

$V_{gs} = -3.05V$, $V_{ds} = 50V$, $I_{dq} = 200mA$

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)	2th	3rd
150	40.6	54.89	308.32	0.97	14.29	63.57	-7.2	-7.7
200	40.78	56.36	432.51	1.2	15.58	72.09	-18.4	-11.1
300	39.74	55.39	345.94	0.98	15.65	70.60	-11.6	-11.1
400	39.17	56.17	414.00	1.3	17	63.69	-13.6	-16.2
500	40.31	54.88	307.61	0.93	14.57	66.15	-16.5	-11.8
600	40.16	55.96	394.46	1.32	15.8	59.77	-26.2	-22.5
700	40.49	55.99	397.19	1.13	15.5	70.30	-16.7	-46.5
800	40.99	56.79	477.53	1.44	15.8	66.32	-18.5	-21.7
900	41.23	55.27	336.51	1.3	14.04	51.77	-162.0	-23.4
950	38.99	55.17	328.85	1.02	16.18	64.48	-31.5	-20.2

YHG-26-26
S3U1045VS⁰⁰: 150-950MHz
(2) Test Condition

Signal mode : CW

Frequency : 150-950MHz

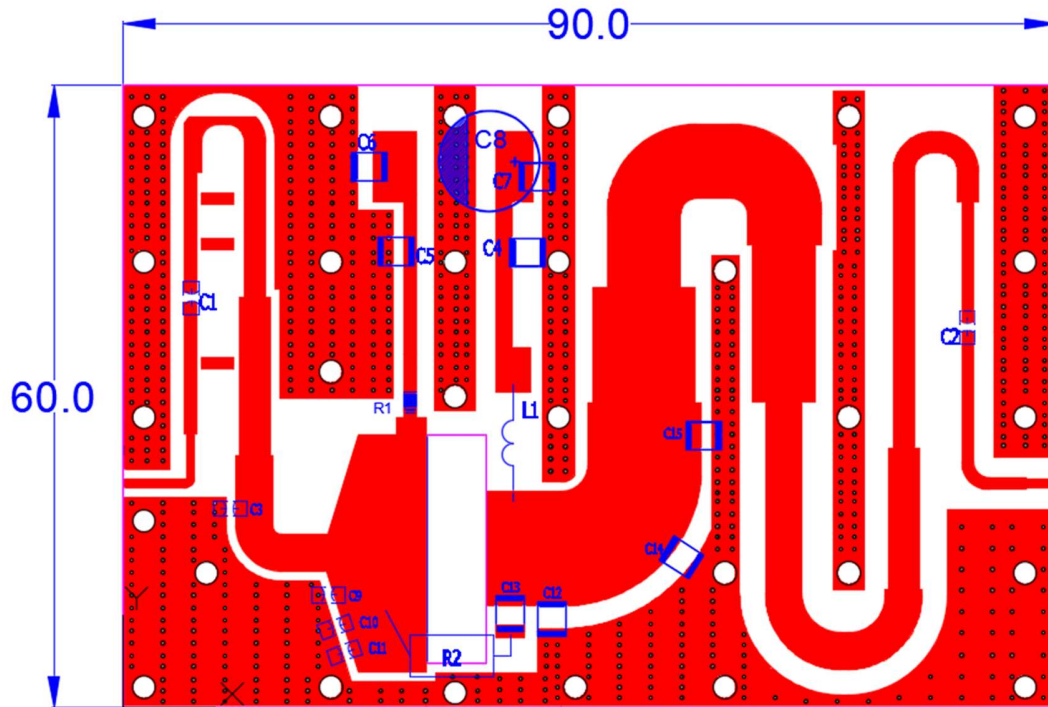
$V_{gs} = -3.04V$, $V_{ds} = 28V$, $I_{dq} = 200mA$

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)	2th	3rd
150	38.8	50.5	112.20	6.33	11.7	63.31	-6.8	-7.8
200	38.88	51.79	151.01	7.34	12.91	73.48	-18.0	-11.0
300	38.84	50.94	124.17	6.1	12.1	72.70	-10.3	-10.4
400	38.37	51.85	153.11	8.57	13.48	63.81	-17.4	-16.8
500	40.01	50.69	117.22	5.96	10.68	70.24	-14.5	-13.5
600	39.86	51.96	157.04	8.85	12.1	63.37	-19.4	-26.4
700	40.19	51.55	142.89	7.2	11.36	70.88	-15.3	-45.0
800	40.29	52.29	169.43	9.23	12	65.56	-16.8	-24.2
900	39.63	52.03	159.59	8.69	12.4	65.59	-18.0	-17.5
950	39.19	50.39	109.40	5.52	11.2	70.78	-31.1	-22.7

YHG-26-26

S3U1045VS⁰: 150-950MHz

BOM of Test Circuit



Component	Description	Suggested Manufacturer
C1	100pF/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.
C13	1000pF/ MQ301111	
C3, C9, C10, C11,	5.6pF/ MQ300805	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
C12, C14,C15	5.6pF/ MQ301111	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
L1	1mm, 7 turns, diameter :5mm	DIY air core inductance
R2	330ohm	---
R1	10ohm/1206	Chip Resistor
PCB	F4BTMS1000 ,r=10.2 ,30 mil	