

SYX-22-11 Test Report SK1090RVP 500-1000MHz

**SK1090RVPS Class AB 500-1000MHz
AUG 9, 2022**

Introduction

This amplifier is designed with Innogrations 50V GAN transistor, targeting for P band and UHF band, wideband >600W pulse application. Please see more product details of SK1090RVPS from its dedicated datasheet.

Demo and Transistor

Frequency band :500-1000MHz
 Application : Multi Market
 Configuration : Class AB
 Test Signal : Pulse
 Transistor : SK1090RVPS
 Date code : 223107S-03
 PCB : 30mil Rogers4350B

The amplifier has been characterized under the following conditions:

- Network Analyzer plots for gain and IRL.

Note: The PA is tested with a supply voltage of $V_{DS}=50V, V_{GS}=-3.24V, I_{dq} = 200mA$ all measurements unless otherwise noted.

Test Results:

1. Summary

@Bench 2(Chengdu)

(1) $V_{DS}=50V V_{GS}=-3.24V I_{DQ}=200mA$

Signal mode: Pulse Period=1ms Pulse width=100us

Frequency: 500-1000MHz, Pout=Psat

SK1090RVP $V_{DS}=50V V_{GS}=-3.224 I_{dq}=200mA$ Pulse Period=1ms Pulse width=100us						
F(MHz)	Pin (dBm)	Pout (dBm)	Pout (W)	I(A)	Gain (dB)	Eff(%)
500	42.5	59	794.3	2.15	16.5	73.89
600	43.7	58.38	688.7	2.08	14.68	66.22
700	45.3	58.3	676.1	2.27	13	59.57
800	45	58.7	741.3	2.7	13.7	54.91
900	44.2	59.64	920.4	3.1	15.44	59.38
1000	45.6	58.3	676.1	2.26	12.7	59.83

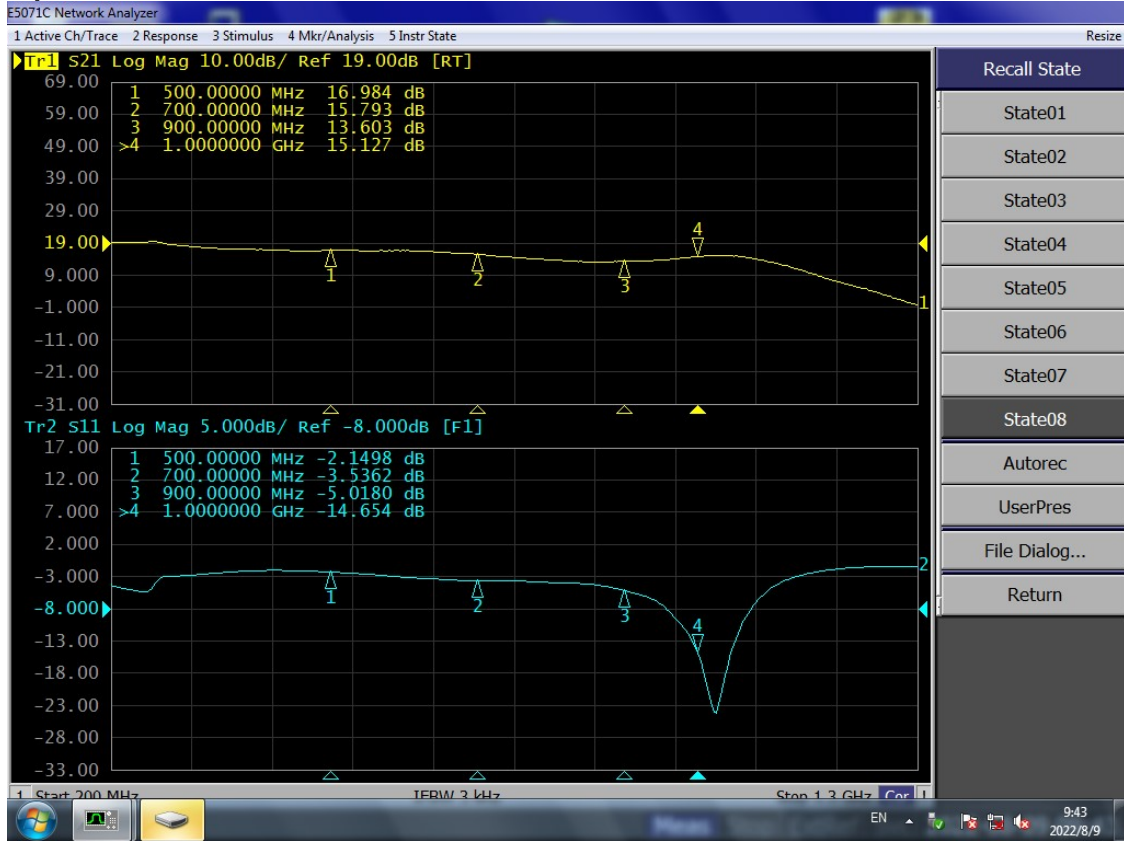
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2. Network Results

Test Condition:

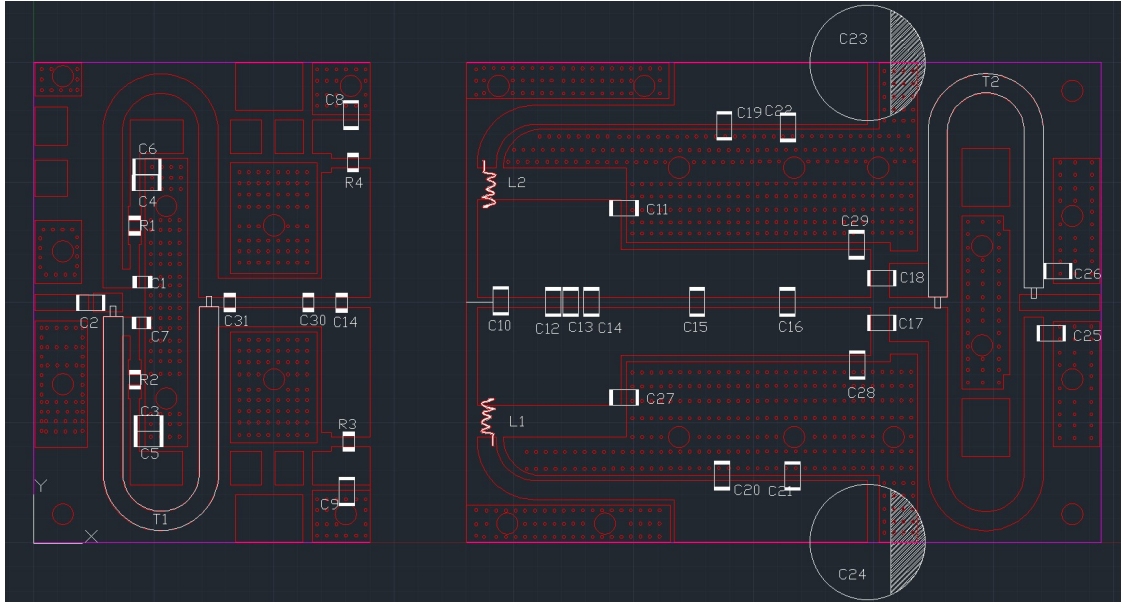
VDS=50V VGS=-3.02V IDQ=1000mA

Input Power = 0dBm



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3. BOM of Test Circuit



Component	Description	Suggested Manufacturer
C15、C10	2.7pF 100A	
C2、C3、C4、C20、C19	300pF 100B	
C5、C6、C21、C22、C8、C9	10UF 1210	
C14、C31	2.2PF 100B	
C1、C7、C25、C26	56PF 100B	
C30、C12	3.3PF 100B	
C16	3.9PF 100B	
C11、C27	1.8PF 100B	
C13	4.7PF 100B	
C28、C29	1.5PF 100B	
C23、C24	钽电容 4700UF 63V	
C17、C18	8.2PF 100B	
R1、R2、R3、R4	Chip Resistor,9.1 Ω,0603	
L1、L2	自制电感 内径3.0mm Ψ0.67mm漆包线 5圈	
T1	SFF-25-1.5 50mm	
T2	SFF-25-1.5 50mm	
PCB	30mil Rogers4350B	