Test Report SMAV3438-71 3100-3500MHz

Nov 6th 2026

Introduction

This amplifier is designed with Innogration 46V SMAV3438-71 GaN

Demo and Transistor

Frequency band ： 3100-35000MHz
Application ： Telecom
Configuration ： Class AB
Test Signal ： Pulse CW
Transistor ： SMAV3438-71
Date code ：
PCB ： **20 Mil Rogers 4350B**

The amplifier has been characterized under the following conditions:

- Network Analyzer plots for gain and IRL.
- Gain, Efficiency.
- Peak power measurement WCDMA_1C, (PAR=10.8dB @ 0.01% probability).
- P1dB and P3dB Peak power measurement using the Pulse，20uS width，10% dule cycle
- RF Test Bench 4

Note:

- **The SMAV3438-71 is tested with a supply voltage of V_{ds}= 46V，$I_{dq-Main}$=40mA，Vgs-main=-3.1V, $I_{dq-Peak}$=40mA，Vgs-peak=-3.1V,Idq-driver=20mA，Vgs-Driver=-3.12V.**

All measurements unless otherwise noted.

Test Results:

1. Pulse Peak power and Efficiency

Freq(MHz)	P1dB(dBm)	P1dB(W)	P1dB Eff(%)	P1dB Gain(dB)	P3dB(dBm)	P3dB(W)	P3dB Eff(%)
3100	47.27	53.3	48.3	29.0	48.57	71.9	54.3
3200	47.52	56.5	53.0	31.2	48.58	72.1	57.2
3300	47.48	56.0	54.8	31.5	48.59	72.2	58.7
3400	47.65	58.2	56.3	30.6	48.54	71.5	58.6
3500	47.57	57.2	55.8	30.0	48.53	71.1	57.8

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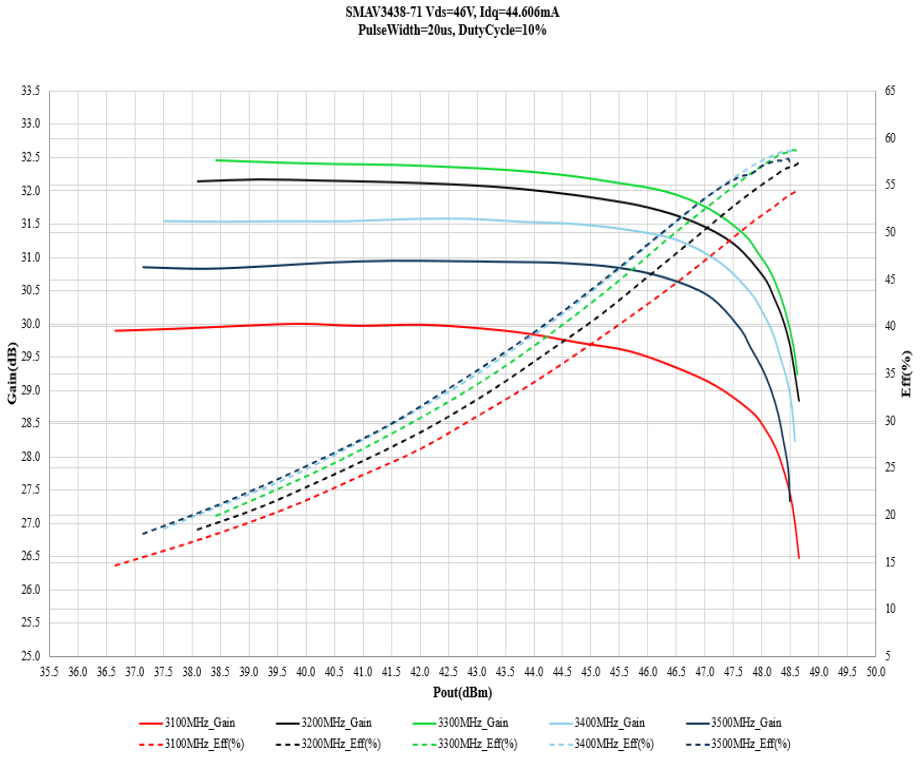
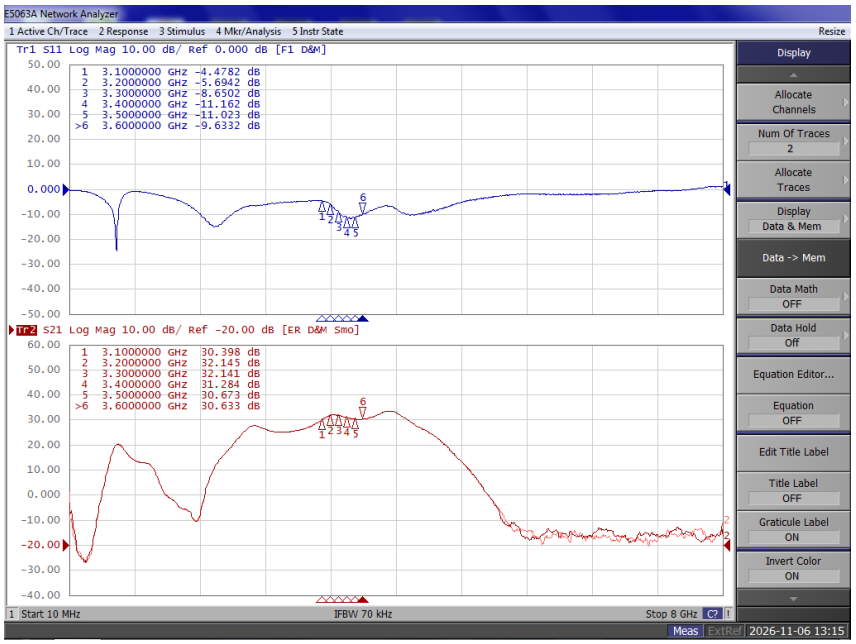


2. Network Analyzer Results（S11，S21）



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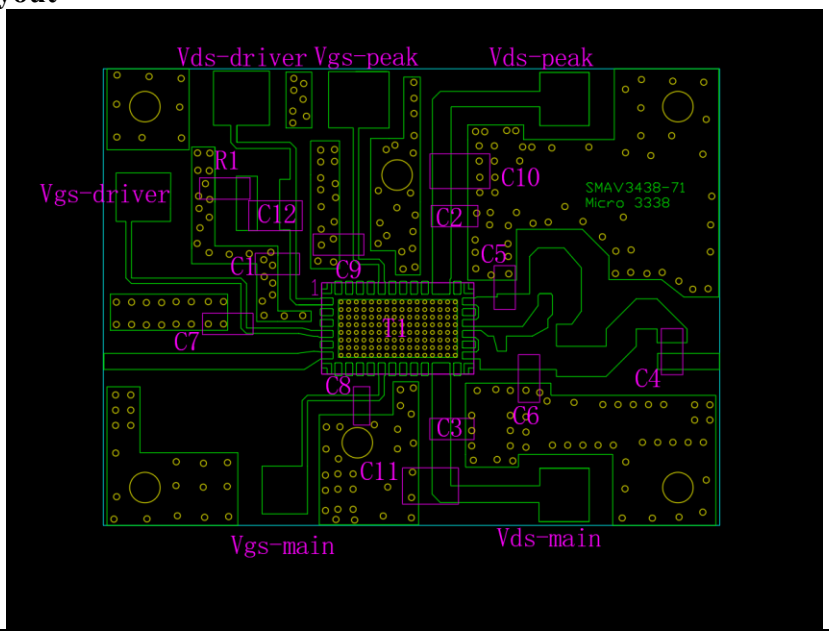
3. **PCB Layout**



Test Board Bom				
Part	**Quantity**	**Description**	**Part Number**	**Manufacture**
C1,C2,C3,C4	4	8.2pFHigh Q Capacitor	251SHS8R2BSE	TEMEX
C5,C6	2	0.3pFHigh Q Capacitor	251SHS0R3BSE	TEMEX
C10,C11,C12	3	10uF MLCC	GRM32EC72A106ME05	Murata
C7,C8,C9	3	4.7nF		
R1	1	2.7 Ω		
T1	1	MCM	SMAV3438-71	Innogration

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