

Test Report STCV25230A2C*2 2400-2500MHz

2024-12-2

Introduction

This amplifier is designed with Innogrations 50V STCV25230A2C GaN

Demo and Transistor

Frequency band : 2400-2500MHz
Application : Telecom
Configuration : Class AB
Test Signal : Pulsed CW,CW
Transistor : STCV25230A2C
Date code : N/A
PCB : 30 Mil RO4350B

The amplifier has been characterized under the following conditions:

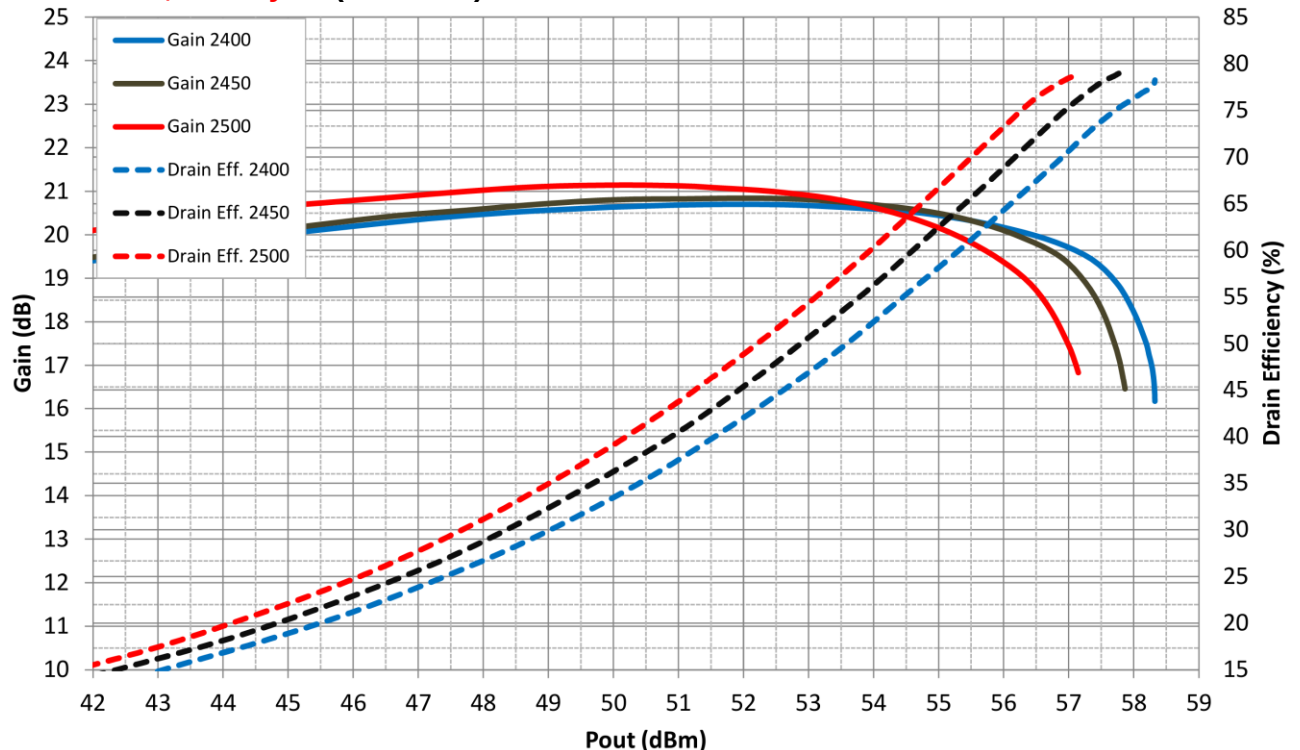
- Network Analyzer plots for gain and IRL.
- P4.5dB Peak power measurement using the Pulse, 20uS width, 30% cycle & 100% cycle.
- RF Test Bench 1

Test Results:

1. RF Performance

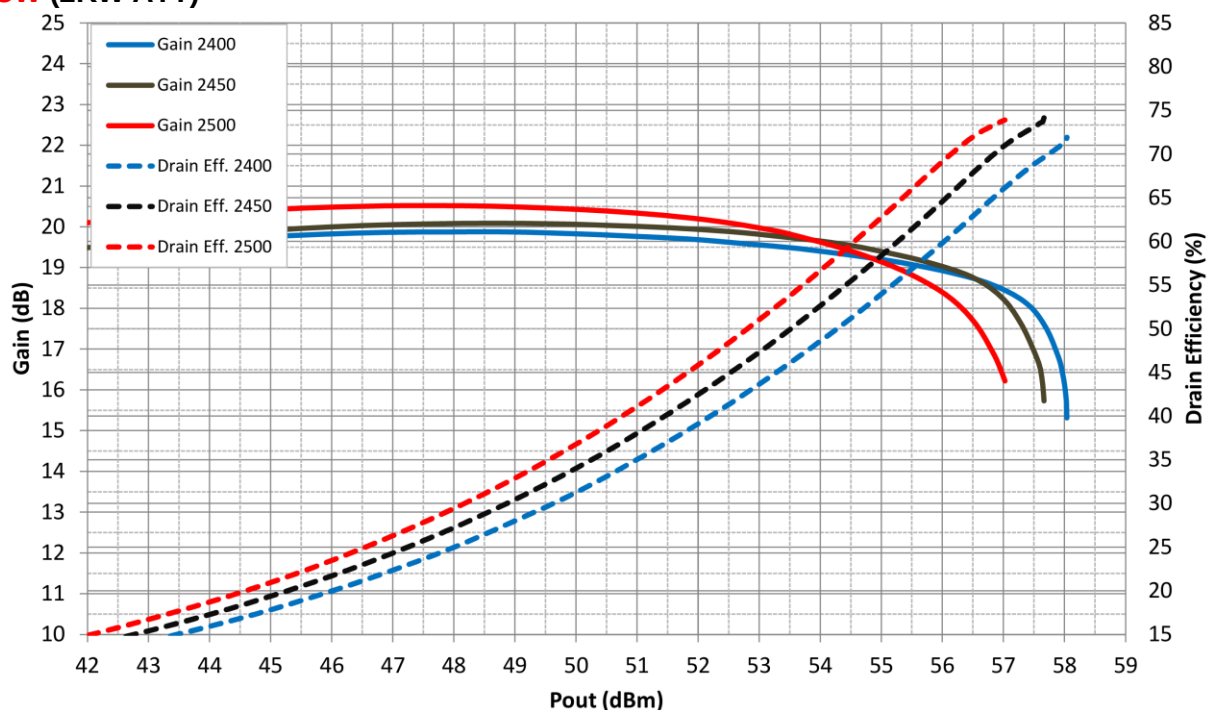
i. Pulse test data

◆ 20uS width, 30% Cycle (2KW ATT)



STCV25230A2C*2
2400-2500MHz
Class AB

Freq	P3dB	P3dB	P3dB Eff	P1dB Gain	P4dB	P4dB	P4dB Eff
(MHz)	(dBm)	(W)	%	dB	(dBm)	(W)	%
2400	58.14	651.5	76.9	19.71	58.3	676.4	77.8
2450	57.62	577.6	78.4	19.86	57.82	604.7	79.1
2500	56.76	474.4	77.6	20.16	57.08	510.3	78.7

◆ CW (2KW ATT)


Freq	P3dB	P3dB	P3dB Eff	P1dB Gain	P4dB	P4dB	P4dB Eff
(MHz)	(dBm)	(W)	%	dB	(dBm)	(W)	%
2400	57.88	613.2	70.7	18.89	58.02	633.4	71.5
2450	57.45	556.0	72.9	19.1	57.64	581.2	73.7
2500	56.58	455.3	72.3	19.53	56.94	494.9	73.7

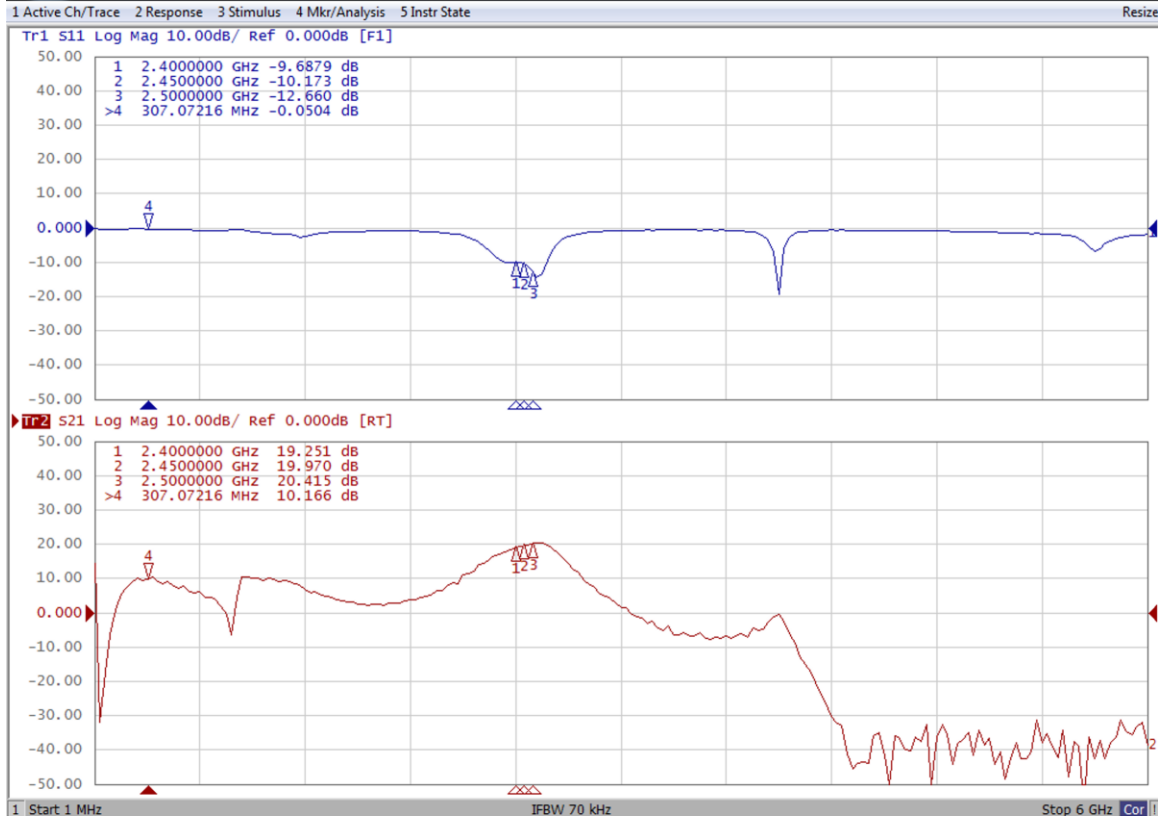
STCV25230A2C*2

2400-2500MHz

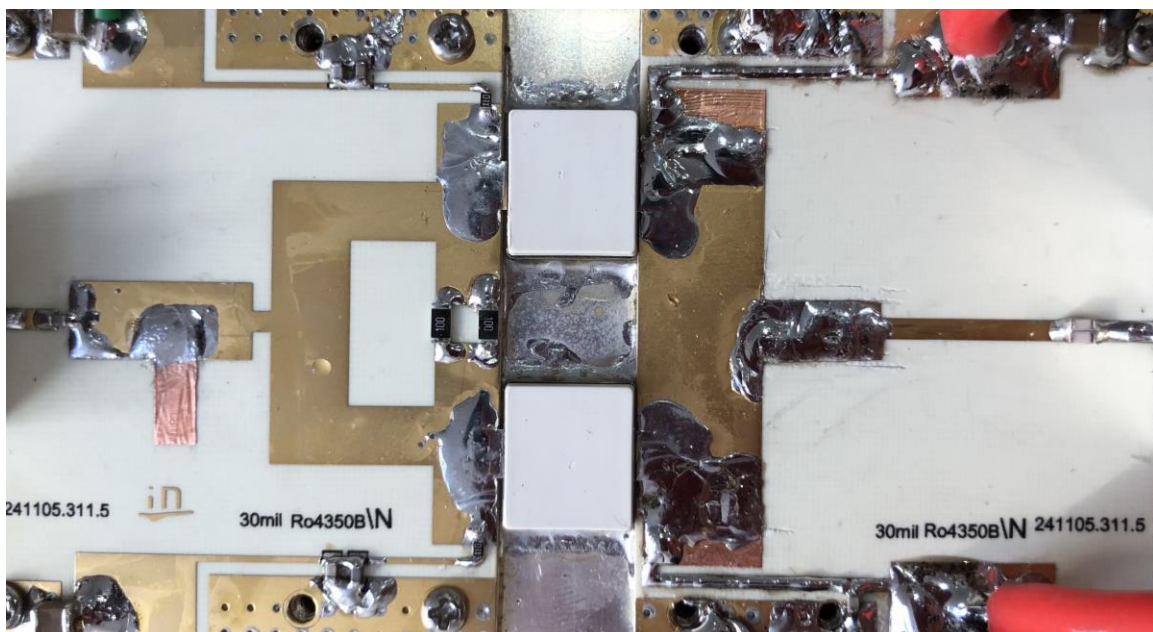
Class AB

2. S-Parameter test data

$V_{DS} = 50V$, $I_{DQ} = 500mA$ ($V_{GS} = -3.32V$)

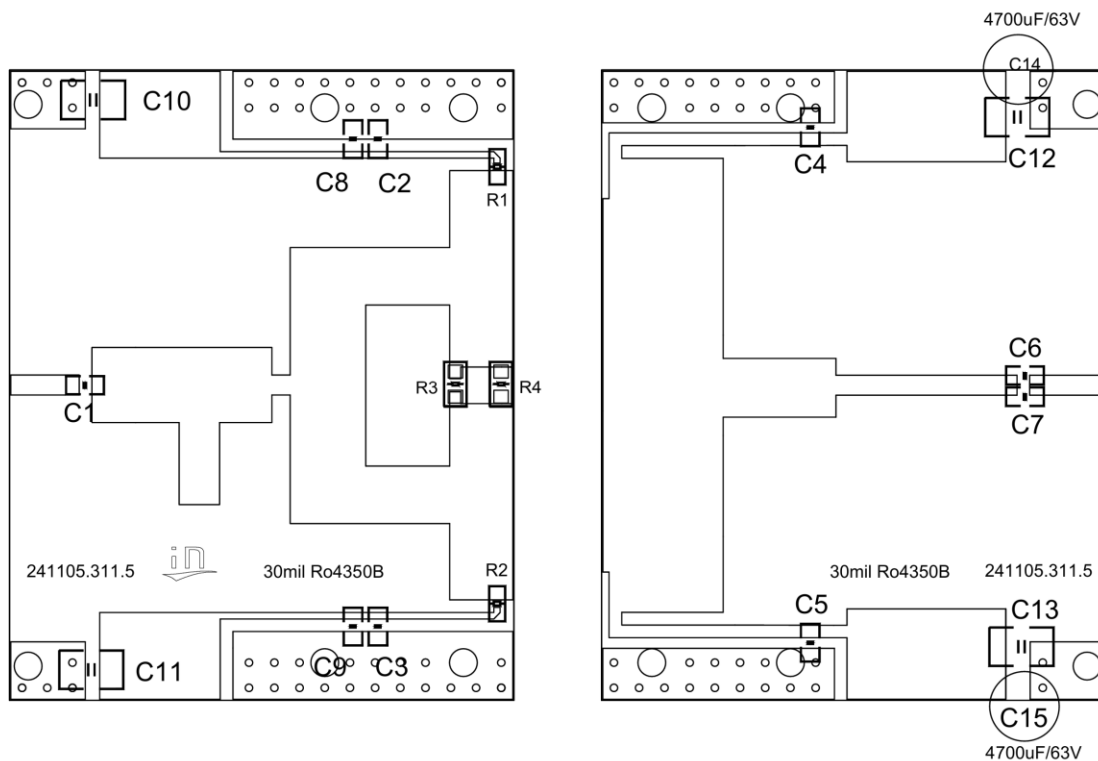


3. Demo Picture



4. PCB Layout and BOM

(i) PCB Layout



(ii) BOM of Test Circuit

Reference	Footprint	Value	Quantity
C1, C2, C3, C4, C5	0805	12pF/250V	5
C6, C7	0805	8.2pF/250V	2
C8, C9	0805	4.7nF/50V	2
C10, C11, C12, C13	1210	10uF/100V	4
C14, C15		4700uF/63V	2
R1, R2	0603	10R	2
R3, R4	0805	10R	2
	A2C	STCV25230A2C	2