

Test Report ITEH38007P3 Class AB 2400-2500MHz

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Jun. 23th, 2025

Introduction

This amplifier is designed with Innegration 28V ITEH38007P3 LDMOS at 12.5V, for more detailed product information, please refer to dedicated datasheet.

Demo and Transistor

Frequency band : 2400-2500 MHz
 Application : Telecom
 Configuration : Class AB
 Test Signal : CW
 Transistor : ITEH38007P3
 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.
- P1dB and P3dB Peak power measurement using the CW
- WCDMA Performance
- RF Test Bench 4(Z)

Test Results:

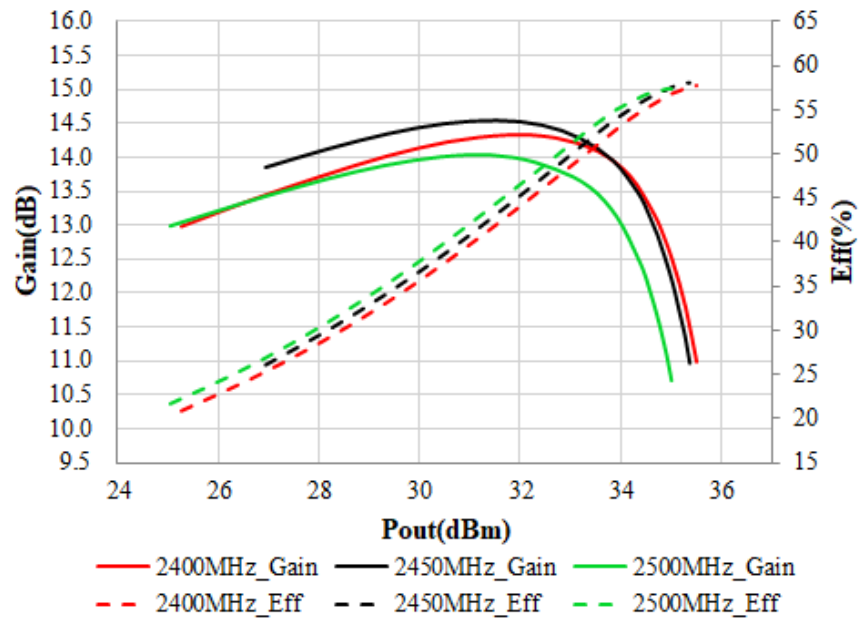
1. CW test

$V_{DS} = 12.5V$, $I_{DQ} = 10mA$

Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff (%)	P1dB Gain (dB)	P3dB (dBm)	P3dB (W)	P3dB Eff (%)
2400	34.51	2.8	55.1	13.34	35.42	3.5	57.6
2450	34.26	2.7	55.3	13.55	35.22	3.3	57.9
2500	33.97	2.5	55.2	13.05	34.92	3.1	57.3

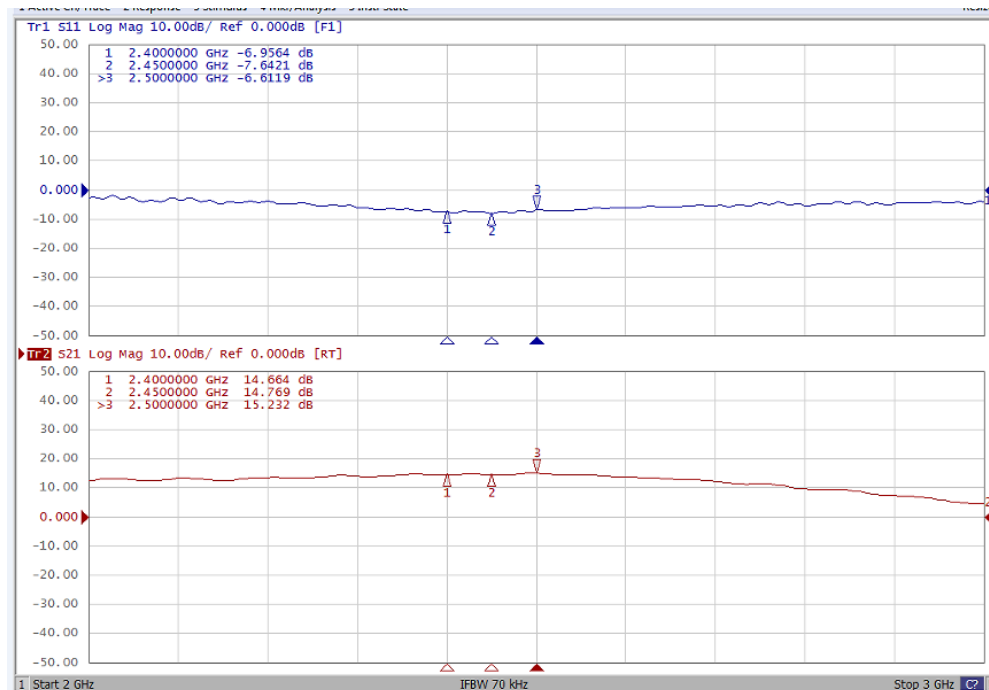
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ITEH38007P3 Class AB , Idq=10.1mA
CW Test



2. Network Analyzer Results (S11, S21)

V_{DS} = 12.5Vdc, Idq = 75mA



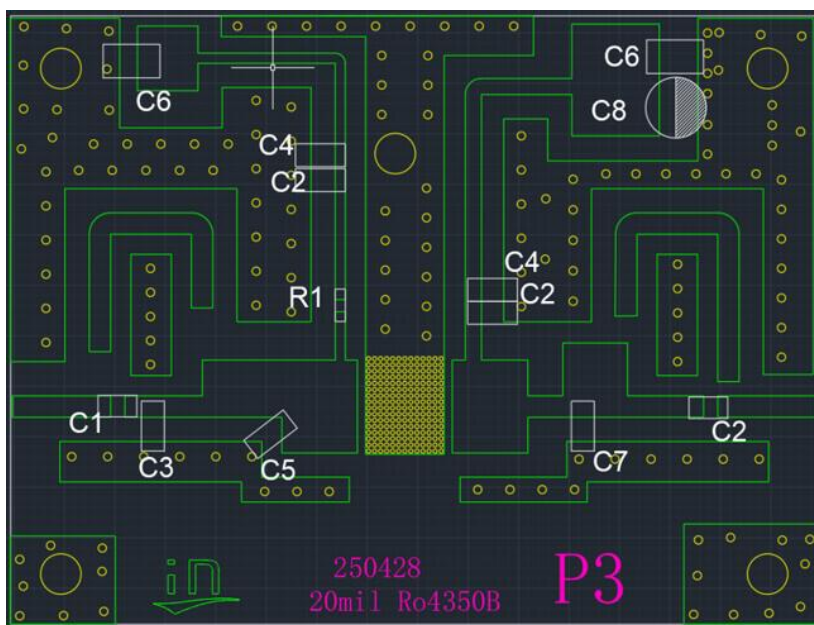
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3. WCDMA Performance (PAR=10.8db @0.01% probability)

VDS= 12.5V, I_{DQ}=75mA P_{out}=24.8dBm

Freq (MHz)	Pout (dBm)	CCDF (dB)	Ppeak (dBm)	Ppeak (W)	ACPR (dBc)	Gain (dB)	Efficiency (%)
2400	24.68	9.46	34.14	2.6	-45.6	16.5	17.5
2450	24.69	9.33	34.02	2.5	-44.9	16.6	17.8
2500	24.75	9.17	33.92	2.5	-44.3	16.2	18.4

4. PCB Layout



5. BOM of Test Circuit

BOM		
Component	Value	Quantity
C1	3.9pF	1
C4	1uF/63V	2
R1	50ohm	1
C8	470uF	1
C3	1.2pF	1
C5	2.4pF	1
C6	10uF	2
C7	1.8pF	1
C2	12pF	3