Test Report XTAH09280A2C^{V0} 915MHz 2026-7-20

Introduction

This amplifier is designed with Innogration 28V GaN

Demo and Transistor

Frequency band :915MHz
Application : RF Energy
Configuration : class C
Test Signal : Pulse
Transistor : XTAH09280A2C
Date code : 262822S-01
PCB : 30 Mil RO4350B

The amplifier has been characterized under the following conditions:

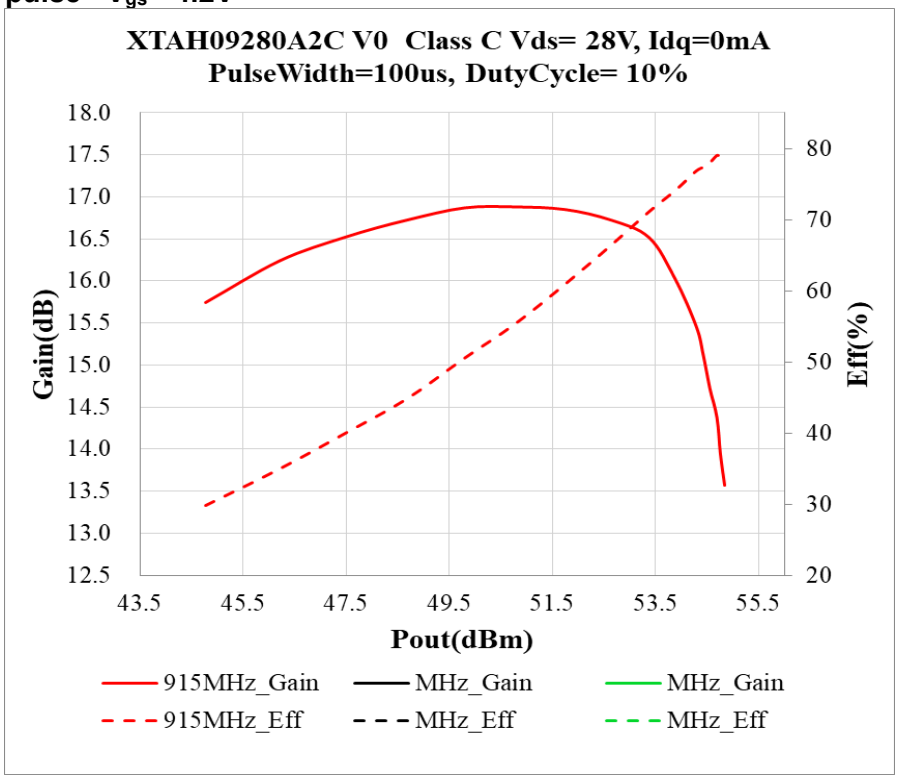
- Network Analyzer plots for gain and IRL
- P1dB and P3dB Peak power measurement using the Pulse, 100uS width, 10% cycle&CW
- RF Test Bench 4 (attenuator: WDTS500-30dB-4G)

Note: The PA is tested with a supply voltage of V_{DS}= 28V, I_{DQ}=0 mA(V_{gs}=-4.2V).all measurements unless otherwise noted.

Test Results: .

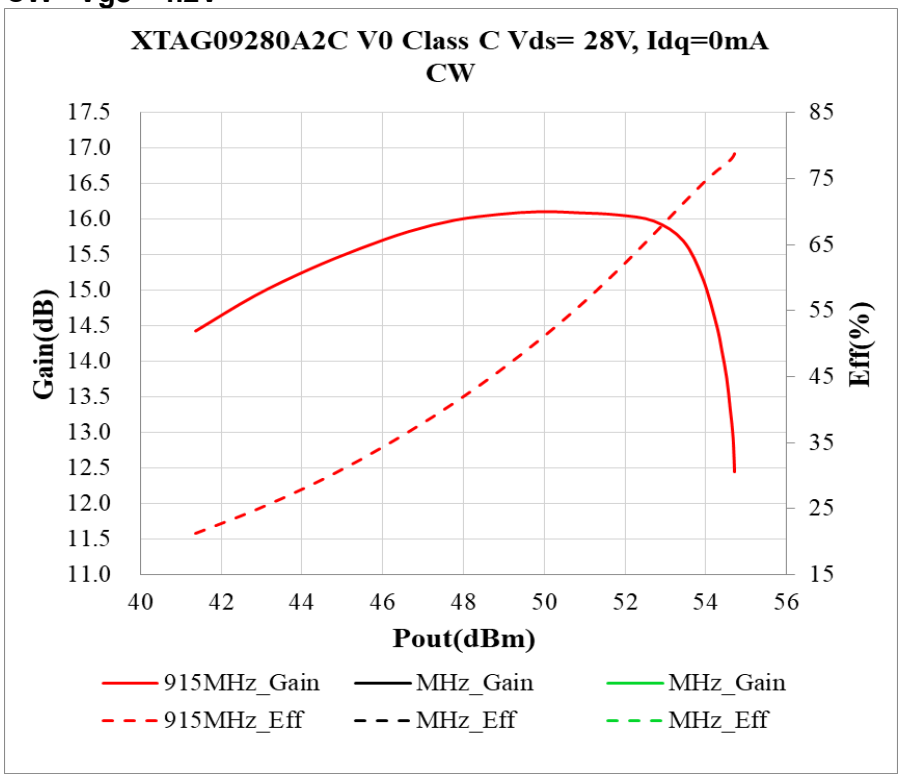
1. **Summary**

1）pulse V_{gs}=-4.2V



Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff(%)	P1dB Gain(dB)	P3dB (dBm)	P3dB (W)	P3dB Eff(%)
915	53.98	249.8	74.7	15.9	54.77	300.2	78.9

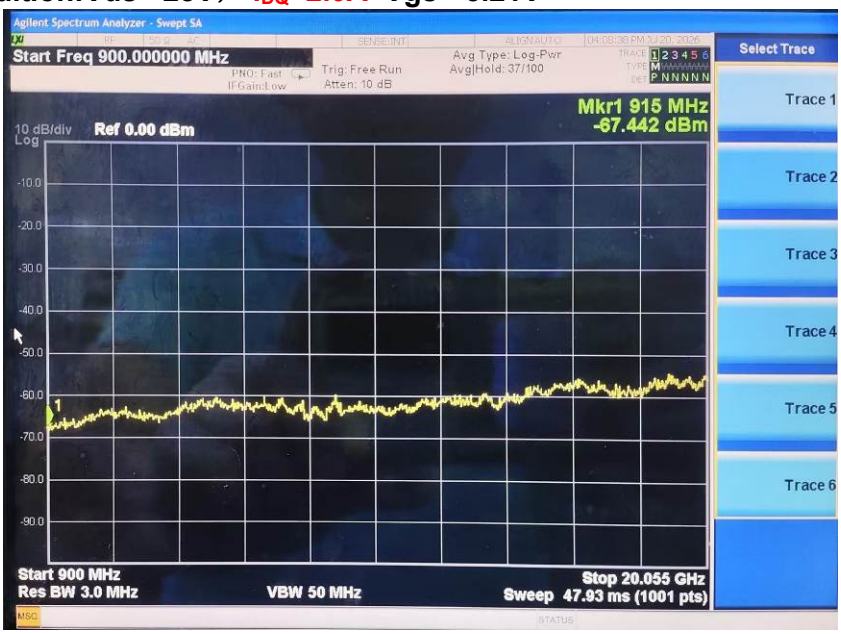
2） CW Vgs=-4.2V



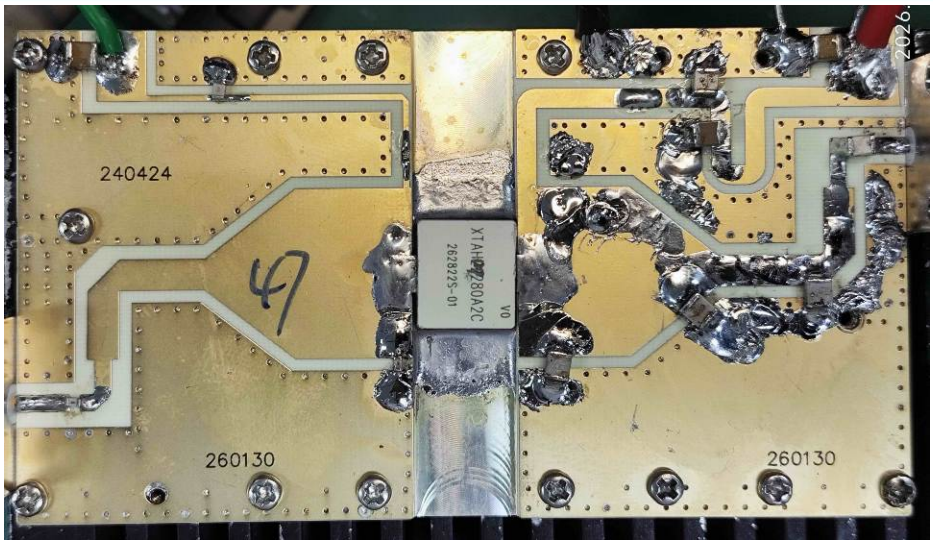
Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff(%)	P1dB Gain(dB)	P3dB (dBm)	P3dB (W)	P3dB Eff(%)
915	53.94	247.9	74.3	15.13	54.64	290.9	78.0

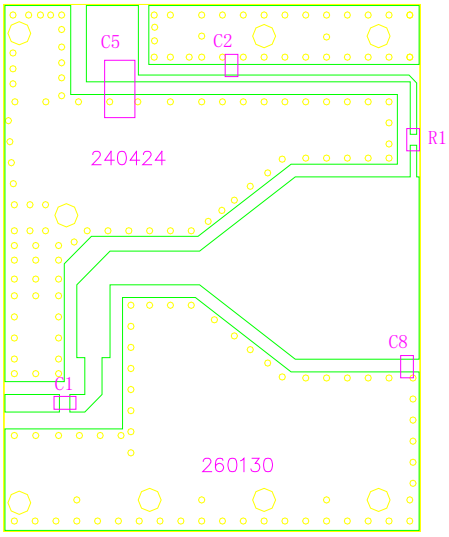
2. Network Analyzer Results
Idq=250A V_{DS}=28V Vgs=-3.44V

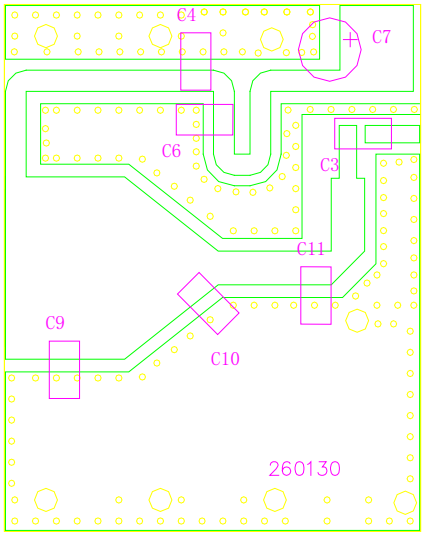
3. **spectrum analyzer to•show no oscillation or instability issue**
   Test Condition:Vds= 28V，I_{DQ}=2.0A Vgs=-3.21V



4. **Demo PCB**







BOM of Test Circuit (High Q capacitance)

Designator	Comment	Footprint	Quantity
C1, C8	6.8 pF	0603/0805	2
C2	47pF	0603/0805	1
C3, C4	47 pF	1210	2
C5, C6	10uF/100V	1210	2
C7	1000uF/63V		1
C9	10 pF	1210	1
C10	6.8 pF	1210	1
C11	2.0 pF	1210	1
R1	10 Ω	0603	1