

Test Report STBV10800RBY2^{V1}X2 915MHz

2025-11-13

Introduction

This amplifier is designed with Innogration 48V STBV10800RBY2 GaN

Demo and Transistor

Frequency band : 915MHz
 Application : RF Energy
 Configuration : CLASS C
 Test Signal : Pulsed CW,CW
 Transistor : STBV10800RBY2
 Date code : 254410S-01/02
 PCB : 20 Mil RO4350B

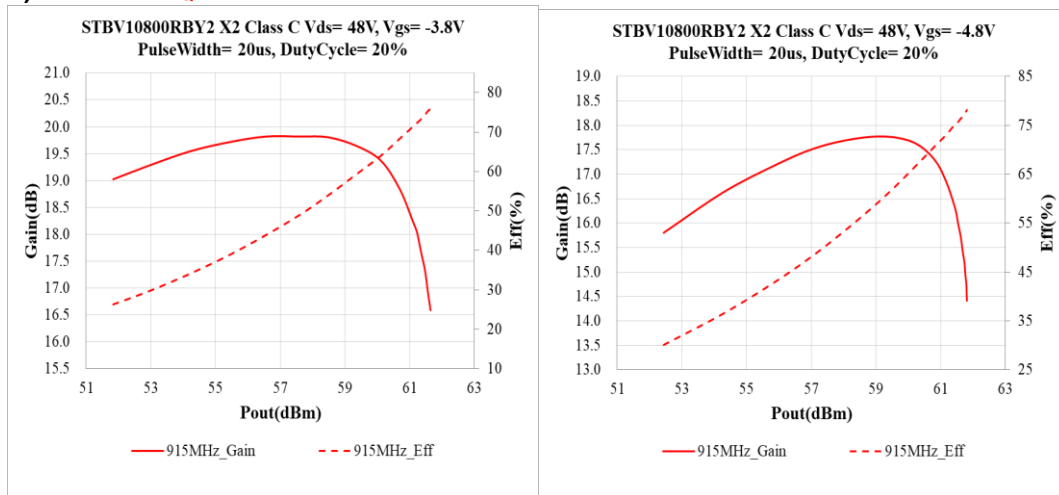
The amplifier has been characterized under the following conditions:

- Network Analyzer plots for gain and IRL.
- Peak power measurement using the Pulse, 20uS width, 20% cycle.
- Peak power measurement using CW.
- RF Test Bench 4(GDTS2000-40-3 attenuator)

Test Results:

1. Summary

1)、Pulse $I_{DQ}=0mA$



V _{gs} (V)	Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff(%)	P1dB Gain(dB)	P3dB (dBm)	P3dB (W)	P3dB Eff(%)
-3.8	915	60.7	1175.7	68.4	18.82	61.59	1440.9	75.5
-4.8	915	61.2	1317.8	73.3	16.78	61.79	1509.9	77.9

STBV10800RBY2 X2

915MHz

2)、CW $I_{DQ}=0mA$

Vgs (V)	Pout (dBm)	Pout (W)	I (A)	EFF (%)
-3.8	61.47	1402.8	41.9	70
-4.8	61.56	1432.2	41.7	72

2. Network Analyzer Results

$I_{DQ}=1.5A$ $V_{GS}=-3.69V$



3. spectrum analyzer to show no oscillation or instability issue

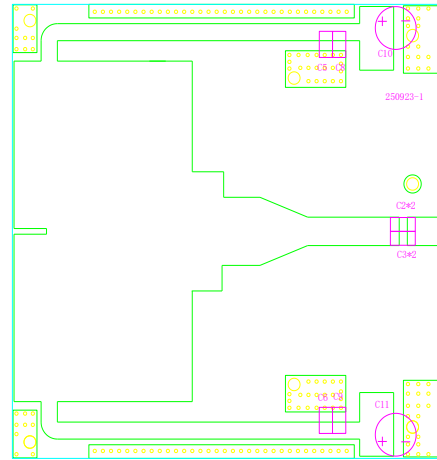
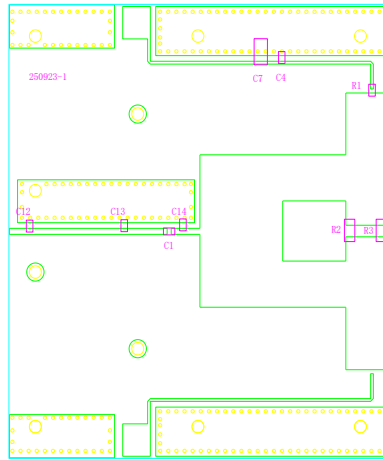
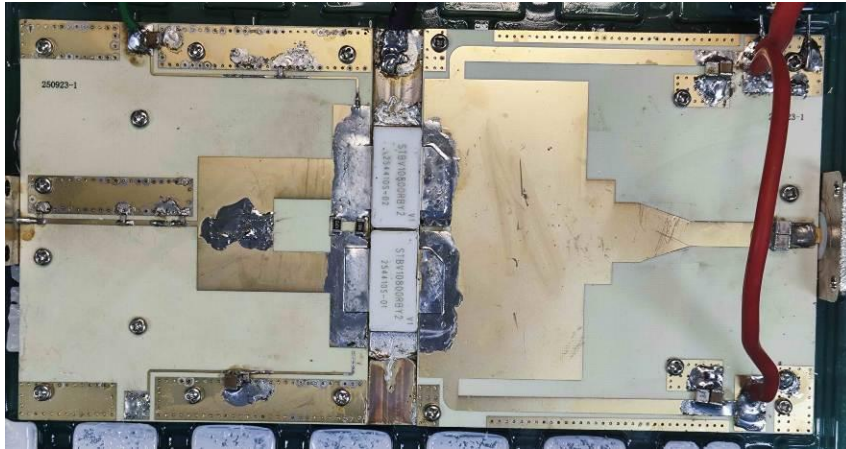
Test Condition: $V_{ds}=48V$, $I_{DQ}=2.0A$



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4. Demo PCB



BOM of Test Circuit (High Q capacitance)

Designator	Footprint	Comment	Quantity
C1	0603/0805	10pF	1
C2*2, C3*2	1210	12pF	4
C4	0603/0805	47pF	1
C5, C6	1210	47pF	2
C7, C8, C9	1210	10 uF/100V	3
C10, C11		1000 uF/63V	1
C12, C13	0603/0805	2.0 pF	2
C14	0603/0805	3.0 pF	1
R1, R2, R3	0805	10 Ω	3