

Test Report

STBV07750RC2^{V2} *2
650MHz
2025-08-07

Introduction

This amplifier is designed with Innegration 50V STBV07750RC2*2 GaN

Demo and Transistor

Frequency band : 650MHz
 Application : Multi Market
 Configuration : CLASS AB
 Test Signal : Pulsed CW/ CW
 Transistor : STBV07750RC2 *2
 Date code : 253104S
 PCB : **20 Mil RO4350B**

The amplifier has been characterized under the following conditions:

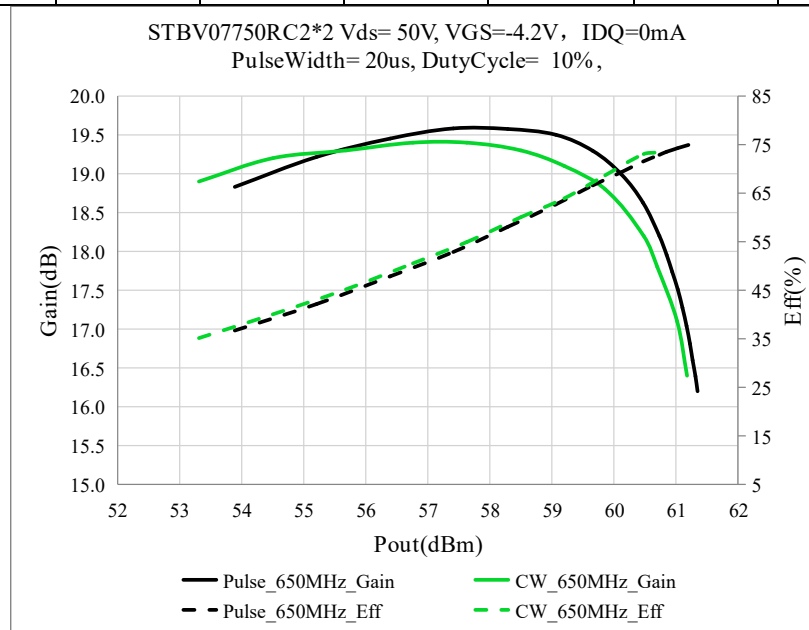
- Network Analyzer plots for gain and IRL.
- P1 dB /P3dB Peak power measurement using the pulse, 20uS width, 10% duty cycle.
- P1 dB /P3dB Peak power measurement using the CW
- RF Test Bench 1

Test Results:

1. Summary

1) 、CW VDS=50V **I_{DQ}=0mA**(V_{GS}=-4.2V)

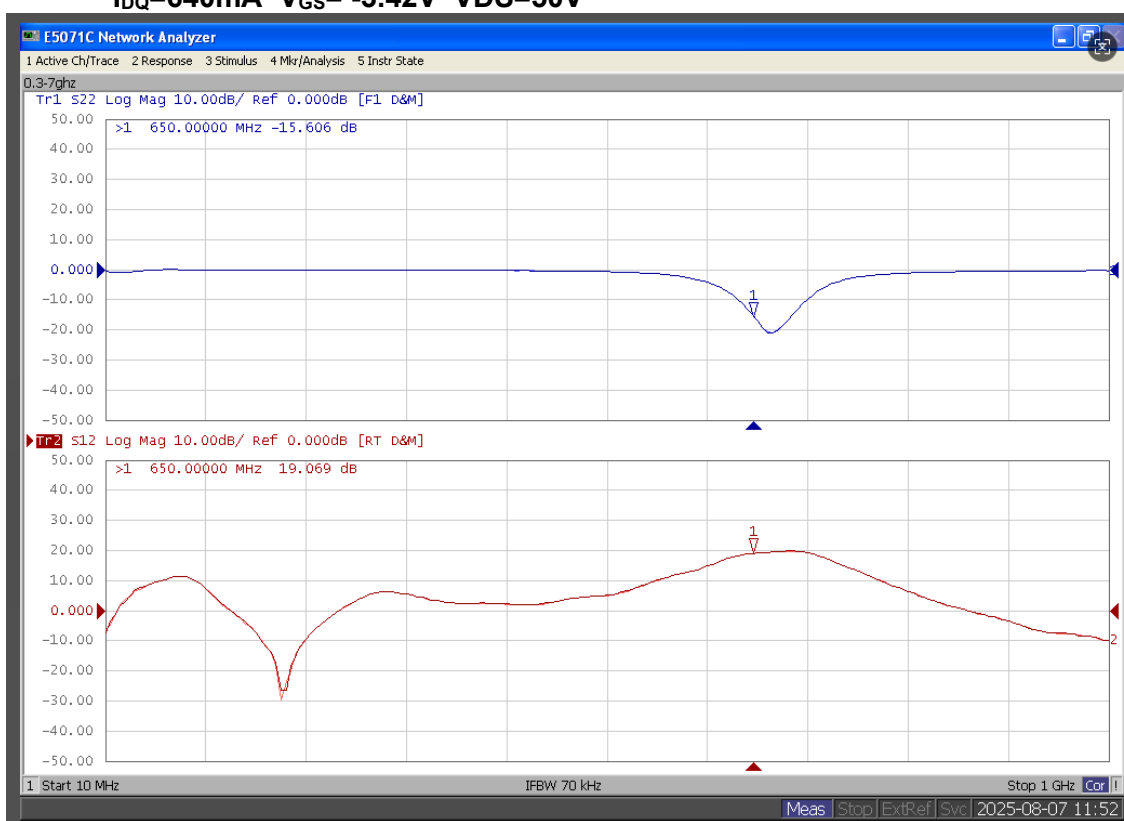
Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff (%)	P1dB Gain (dB)	P3dB (dBm)	P3dB (W)	P3dB Eff (%)
650	60.49	1118.4	71.6	18.6	61.27	1340.4	75.2



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STBV07750RC2*2_CW_650Mhz						
Freq(MHZ)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain (dB)	Eff(%)
650	34.38	53.31	214	12.18	18.9	35.14
	35.3	54.5	282	14.09	19.2	40.03
	36.34	55.68	370	16.38	19.3	45.18
	37.33	56.76	474	18.76	19.4	50.53
	38.21	57.63	579	21.08	19.4	54.93
	39.16	58.5	708	23.58	19.3	60.05
	40.1	59.2	832	26.03	19.1	63.93
	41.1	59.86	968	28.19	18.8	68.68
	42.06	60.48	1117	30.58	18.4	73.05
	43	60.7	1175	32.01	17.7	73.41
	43.91	61.02	1265	34.1	17.1	74.19
	44.63	61.23	1340	35.2	16.6	75.2

2. Network Analyzer Results

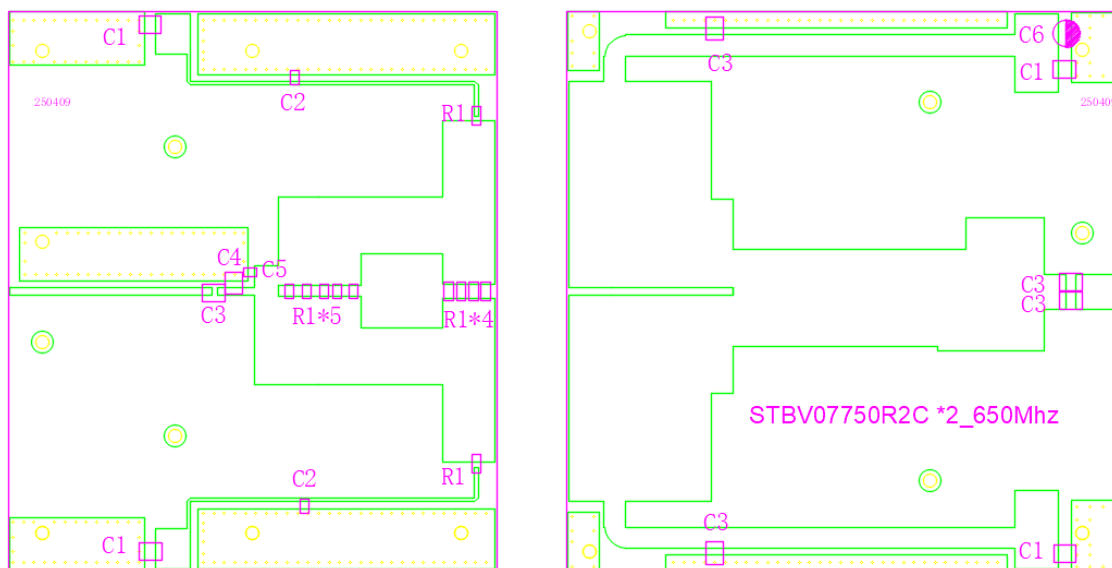
 $I_{DQ}=640mA$ $V_{GS}=-3.42V$ $V_{DS}=50V$


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3. Demo PCB



BOM of Test Circuit (High Q capacitance)

Designator	Footprint	Comment	Quantity
C1	1210	10uF/100V	4
C2	0805	200pF/250V	2
C3	1210	240pF/250V	5
C4	1210	15pF/250V	1
C5	0805	10pF/250v	1
C6		4700uF/63V	1
R1	0805	10Ω	11