

Test Report XTAV22450B4C^{V0} 1930-1990MHz

2026-10-15

Introduction

This amplifier is designed with Innogration 50V XTAV22450B4C^{V0} GaN

Demo and Transistor

Frequency band : 1930-1990MHz

Application : Telecom

Configuration : Doherty

Test Signal : Pulsed CW, WCDMA

Transistor : XTAV22450B4C^{V0}

Date code : 263621S-04

PCB : 20 Mil RO4350B

The amplifier has been characterized under the following conditions:

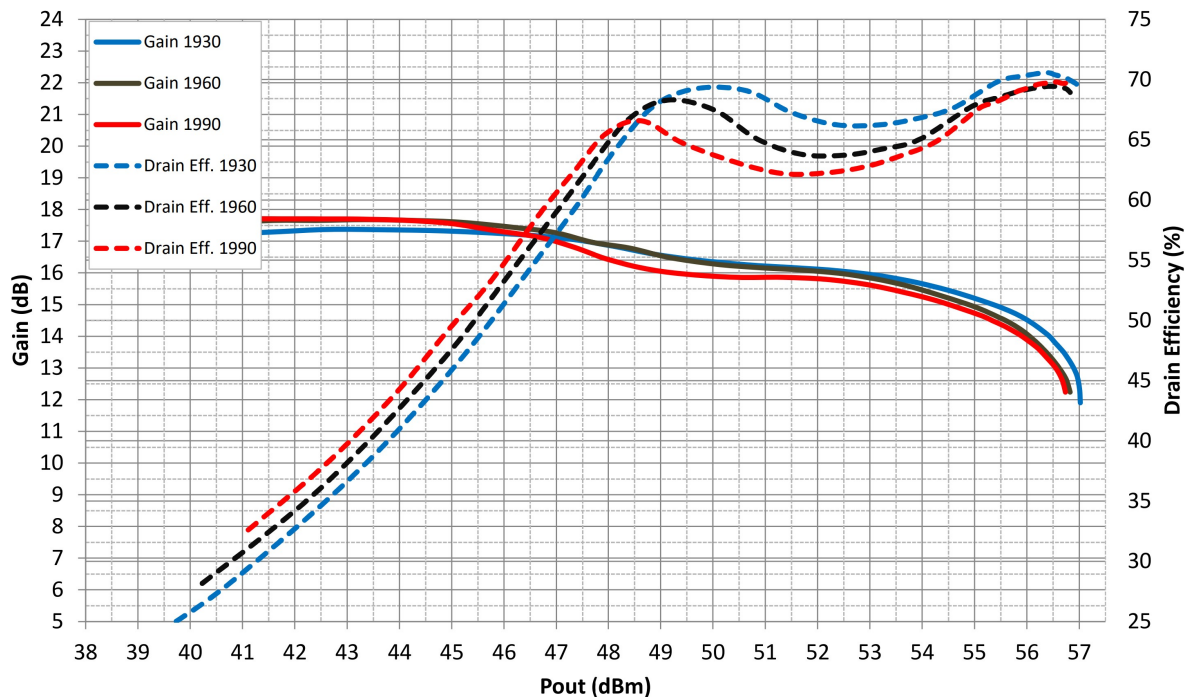
- Network Analyzer plots for gain and IRL.
- P5dB Peak power measurement using the Pulse, 20uS width, 10% cycle.
- RF Test Bench 3

Test Results:

1. RF Performance

(1) $V_{DS} = 50V$, $I_{DQ} = 150mA$ ($V_m = -3.68V$, $V_p = -5.9V$)

i. Pulse test data



ZBB-26-23

KTAV22450B4C

1930-1990MHz

Doherty

Freq (MHz)	P3dB (dBm)	P3dB (W)	P3dB Eff(%)	P3dB Gain(dB)	P5dB (dBm)	P5dB (W)	P5dB Eff(%)
1930	56.11	408.1	70.4	14.39	57.0	501.4	69.3
1960	55.33	341.3	68.3	14.7	56.73	471.1	69.3
1990	55	316.3	67.3	14.73	56.64	461.5	69.7

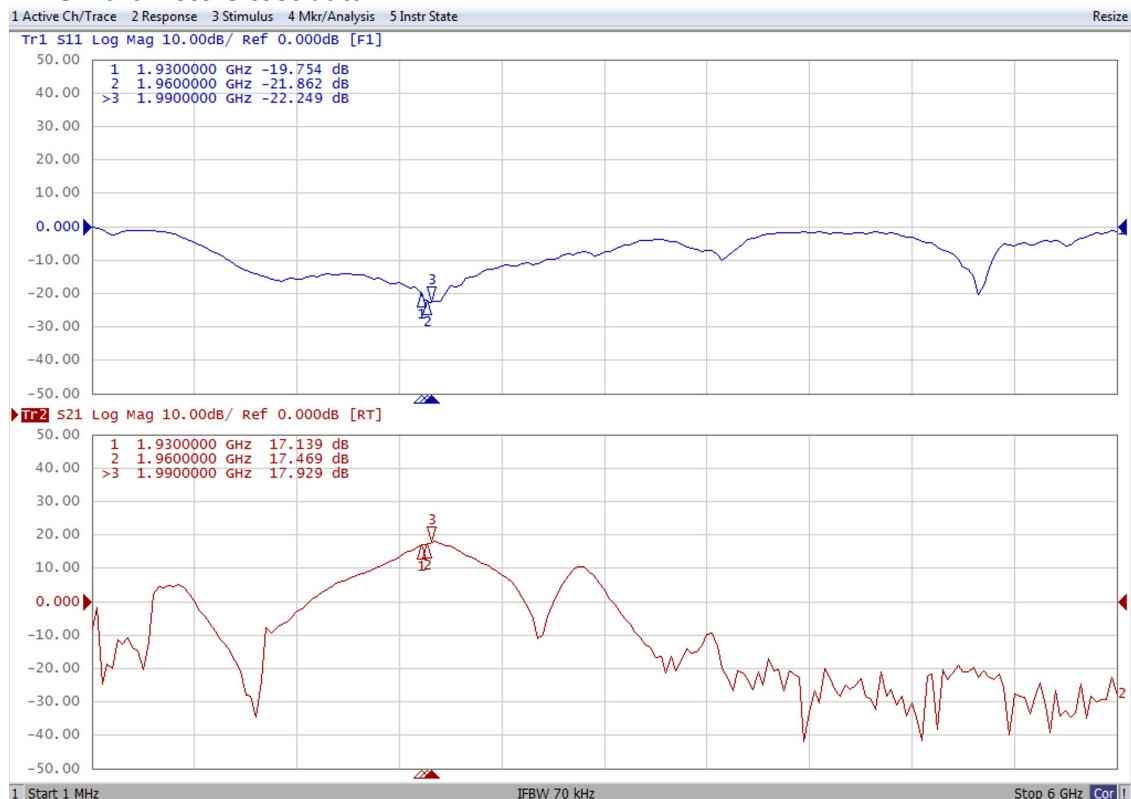
ii. ACPR test data

1C-WCDMA Signal PAR = 10.8dB @ 0.01% Probability on CCDF.

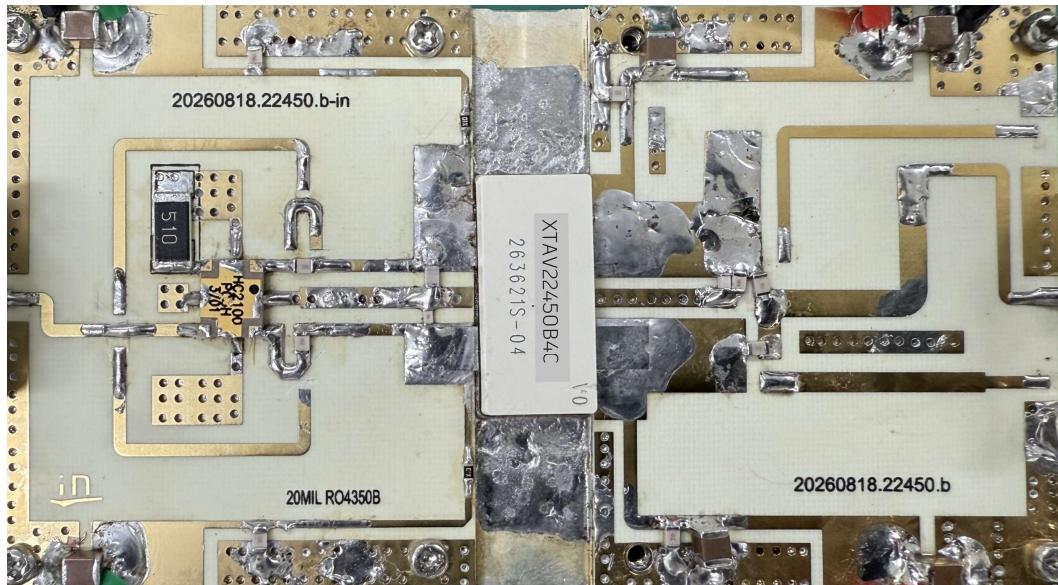
V_{DS} = 50V, I_{DQ} = 150mA (V_m = -3.68V, V_p = -5.9V)

ACPR @48.5dBm_1C-WCDMA							
Freq (MHz)	Pout (dBm)	CCDF (dB)	Ppeak (dBm)	Ppeak (W)	ACPR (dBc)	Gain (dB)	Efficiency (%)
1930	48.52	8.31	56.83	481.9	-28.0	16.2	59.4
1960	48.48	8.07	56.55	452.2	-28.5	16.3	58.7
1990	48.48	8.08	56.55	452.2	-29.3	16.0	58.0

2. S-Parameters test data

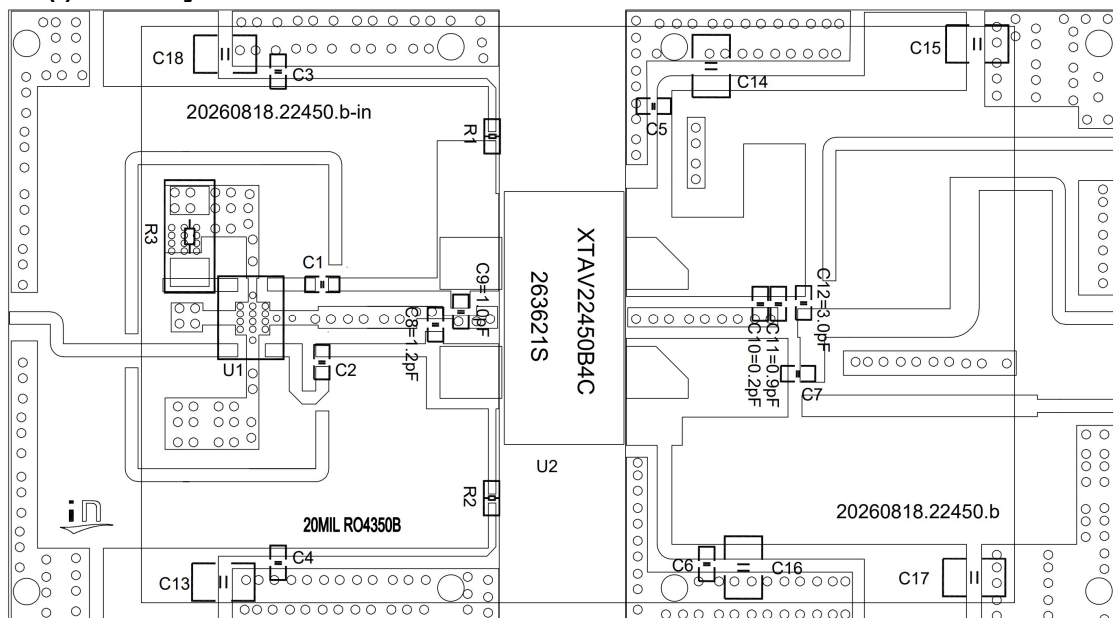


3. Demo Picture



4. PCB Layout and BOM

(i) PCB Layout



(ii) BOM of Test Circuit

Reference	Footprint	Value	Quantity
C1, C2, C3, C4, C5, C6, C7	0603	20pF/250V	7
C13, C14, C15, C16, C17, C18	1210	10uF/100V	6
C8	0603	1.2pF/250V	1
C9	0603	1.0pF/250V	1
C10	0603	0.2pF/250V	1
C11	0603	0.9pF/250V	1
C12	0603	3.0pF/250V	1
R1, R2	0603	10R	2
R3	2512	51R	1
U2	B4C	XTAV22450B4C ^{V0}	1
U1	6.35*5.08mm	HC2100P03H	1