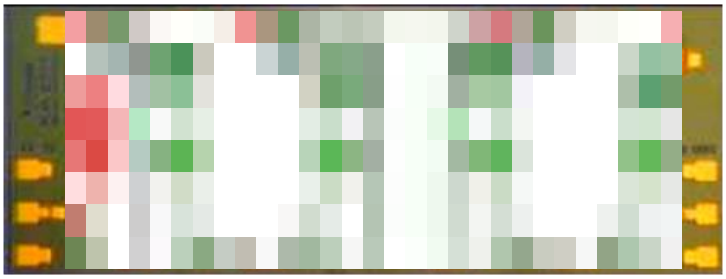
VRF450DV2 - BD

W-Band Medium Power Amplifier

www.viper-rf.com

Version 0.3

Advance Information



Key Features:

- Frequency Range: 93GHz - 95GHz
- 21.5dBm P1dB output power
- 12dB small signal Gain
- Size: 2.5mm X 1mm X 0.05mm

Description:

The VRFA450DV2-BD is a two-stage MPA which operates within the frequency range of 93GHz to 95GHz manufactured on a 0.1 µm GaAs pHEMT process. The circuit demonstrates P1dB performance of 21.5dBm and exhibits a simulated Psat of 23dBm across the frequency band. The two stages of the amplifier are simulated to be unconditionally stable.

Electrical Specifications:

Parameter	Specification			Unit
	Max.	Typ.	Min.	
Frequency Bandwidth	93		95	GHz
Small Signal Gain		12		dB
Output power for 1dB Compression (P1dB)		21.5		dBm
Saturated Output Power (Psat)		23		dBm
I/P Return Loss		-11		dB
O/P Return Loss		-19		dB

Notes: Specifications are at 25ºC, V_{DD} = +4 V V_{GS} = -0.25V @80mA

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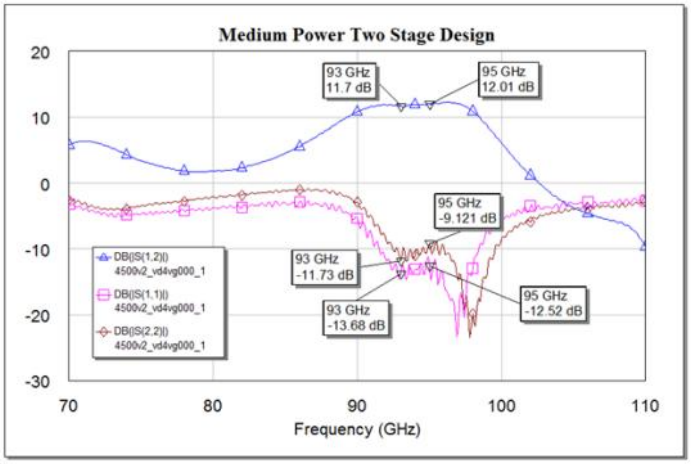
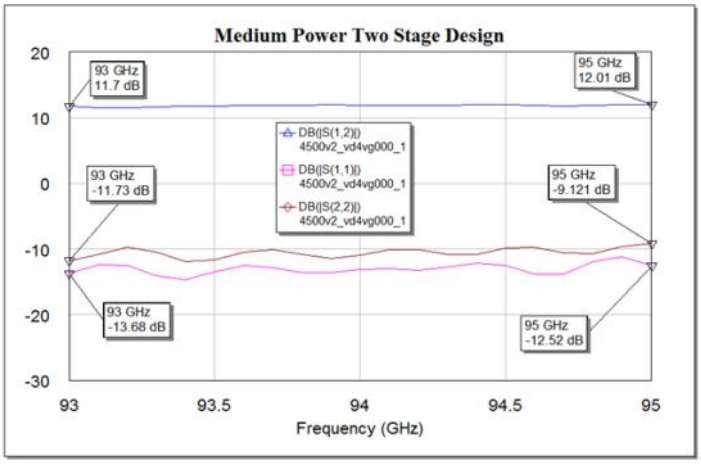
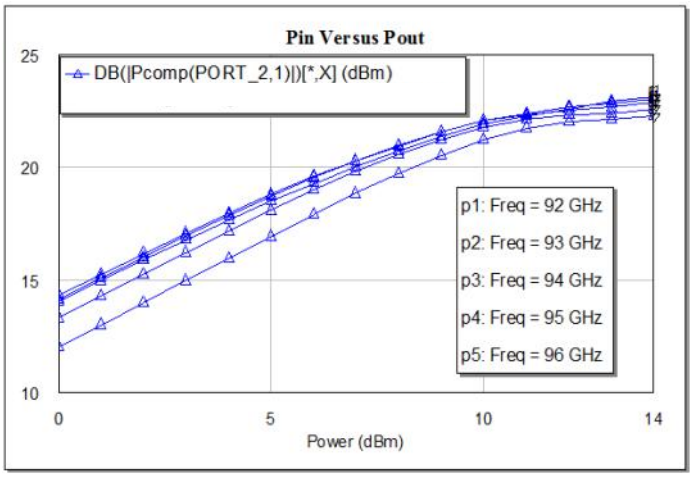
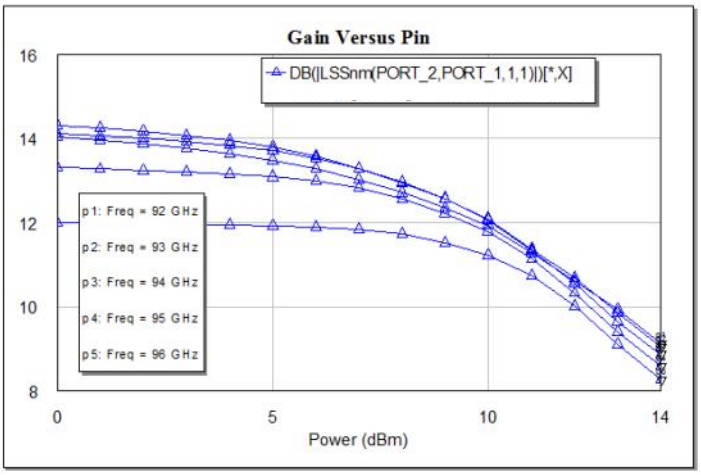
PERFORMANCE:

TA = 25°C, V_{DD} = +4V, V_{GS} = -0.25V, V_{DD} = 80mA (small signal measured)

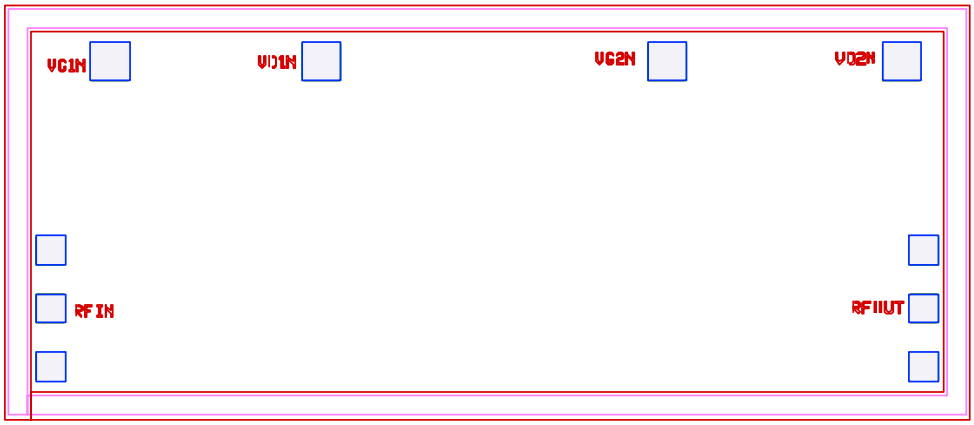








CHIP ASSEMBLY AND BONDING DIAGRAM:



DC pads: 100µm x 100µm