

## General Description

MWG004 is a distributed power amplifier product designed and manufactured by GaAs pHEMT technology. The operating frequency band of this distributed power amplifier can cover DC-20GHz. It is powered by +8V voltage Vdd. The normal operating current is 160mA. It provides 19 dB small signal gain.

## Features

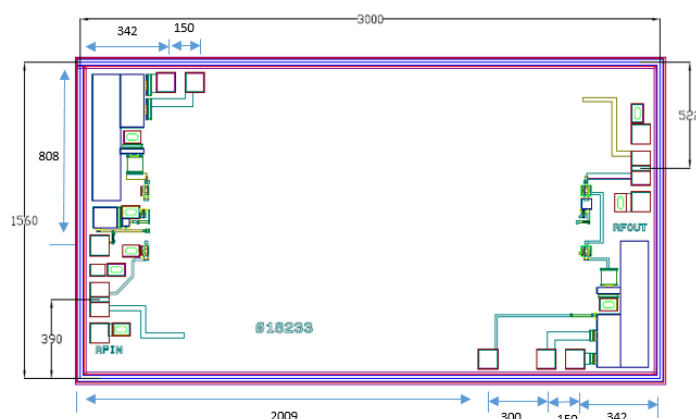
Gain: 19dB

NF: 2.5dB

Output P1dB: 20dBm

Supply Current: +8V@160 mA

## Functional Diagram( Typical bond: 100x100, Unit: um)



(Die Thickness: 100 um)

## Electrical Specifications, $T_A = +25^\circ\text{C}$ , $V_{dd} = +8\text{V}$ , $I_{dd} = 160\text{mA}$

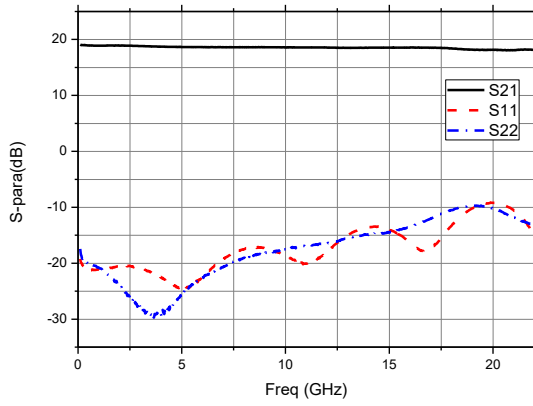
Parameter	Min	Typ	Max	Units
Bandwidth	DC		20	GHz
Gain		19		dB
Input Return Loss		17		dB
Output Return Loss		17		dB
Output Power for 1dB Compression		20		dBm
Supply Current (@Vdd=+8V)		160		mA

Note: Power-on sequence: 1. Vgg1 to -2V; 2. Vgg2 to +1.5V; 3. Vdd to 8V; 4. Vgg1 to Idd = 160mA (typical value of Vgg1 is -0.04V)

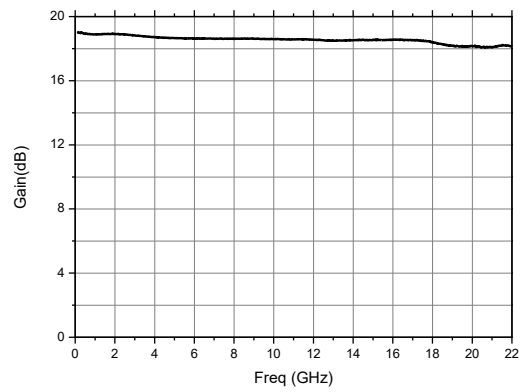
Turn off order: 1. turn off RF signal; 2. turn off Vdd; 3. shut down Vgg2; 4. turn off Vgg1.

## Test Results

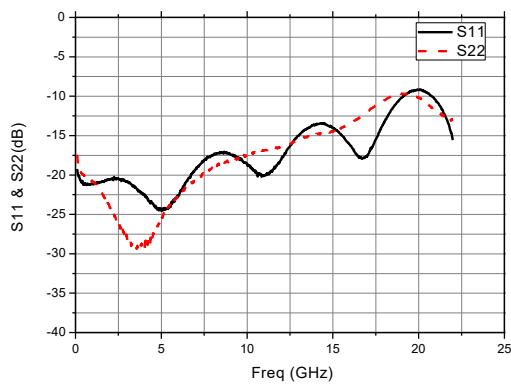
**S\_Parameter**



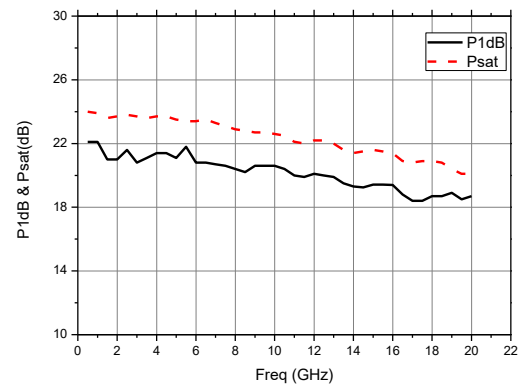
**Gain**



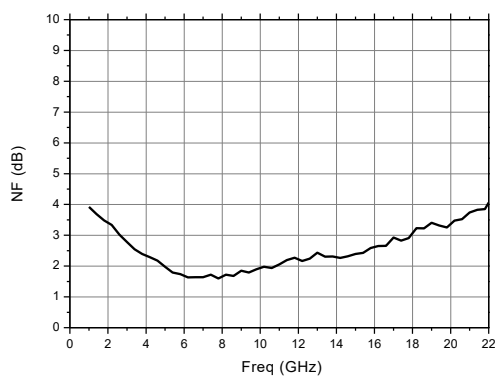
**Input Return Loss**



**P1dB & Psat**



**Noise Figure**



**Assembly Diagram**

