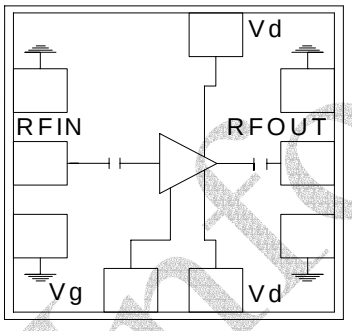
4.8 – 6.4 GHz 2W Power Amplifier

Features

- **Frequency Range : 4.8 – 6.4GHz**
- **33 dBm output P1dB**
- **11 dB Power gain**
- **30% PAE**
- **High IP3**
- **Input Return Loss > 15 dB**
- **Output Return Loss > 10 dB**
- **Dual bias operation**
- **No external matching required**
- **DC decoupled input and output**
- **0.15 µm InGaAs pHEMT Technology**
- **Chip dimension: 2 x 2.4 x 0.1 mm**

Functional Diagram



Typical Applications

- **RADAR**
- **C band point to point radio**
- **VSAT**

Description

The ASTRA 2134011 is a C band Power amplifier with 33dBm power output. The PA uses 1 stage of amplification and operates in 4.8 – 6.4 GHz frequency range. The PA features 11 dB gain with input and output return losses of 15 dB and 10 dB respectively. The PA has a high IP3 of 43dBm and greater than 30% PAE. This feature enables it to be used in the applications requiring efficiency along with linearity. The chip operates with dual bias supply voltage. The die is fabricated using a reliable 0.5µm InGaAs pHEMT technology. The Circuit grounds are provided through vias to the backside metallization.

Electrical Specifications [1] @ T_A = 25 °C, V_d = 8V, V_g = -0.8V Z_o = 50 Ω

Parameter	Min.	Typ.	Max.	Units
Frequency Range	4.8	-	6.4	GHz
Gain	-	11	-	dB
Gain Flatness	-	±0.5	-	dB
Output Power (P1 dB)	-	33	-	dBm
Input Return Loss	-	15	-	dB
Output Return Loss	-	10	-	dB
Saturated output power (Psat)	-	34	-	dBm
Output Third Order Intercept (IP3)	-	43	-	dBm
Power Added Efficiency (PAE)	-	30	-	%
Supply Current	-	660	-	mA