Product Name

200 W - 1296 MHz Intelligent Power Amplifier P/N : LC-ASS-012 **200MOD1296**

General Description

This linear power amplifier pallet has been designed to cover the 1296MHz HAM radio band offering OEMs a single, unsurpassed solution for high power amplifier designs. The amplifier is based on the latest generation of NXP BLF6G13L-250P, N-Channel LDMOS device.
A 8bit/64MHz microcontroller, with a soft real-time operating system, acquire all working voltages, currents, and temperatures acting bias control, protection and monitoring function. All the working parameter are available through serial port supporting various kind of protocols.
An event log in EEPROM memory permit to read an history of the past amplifier working life.
With a Windows based software included in the distribution kit it is possible to configure the amplifier for different working options and to monitoring, run time, various working parameter (state, supply voltage and current, temperature, bias voltage, etc.).

Technical Specification Summary

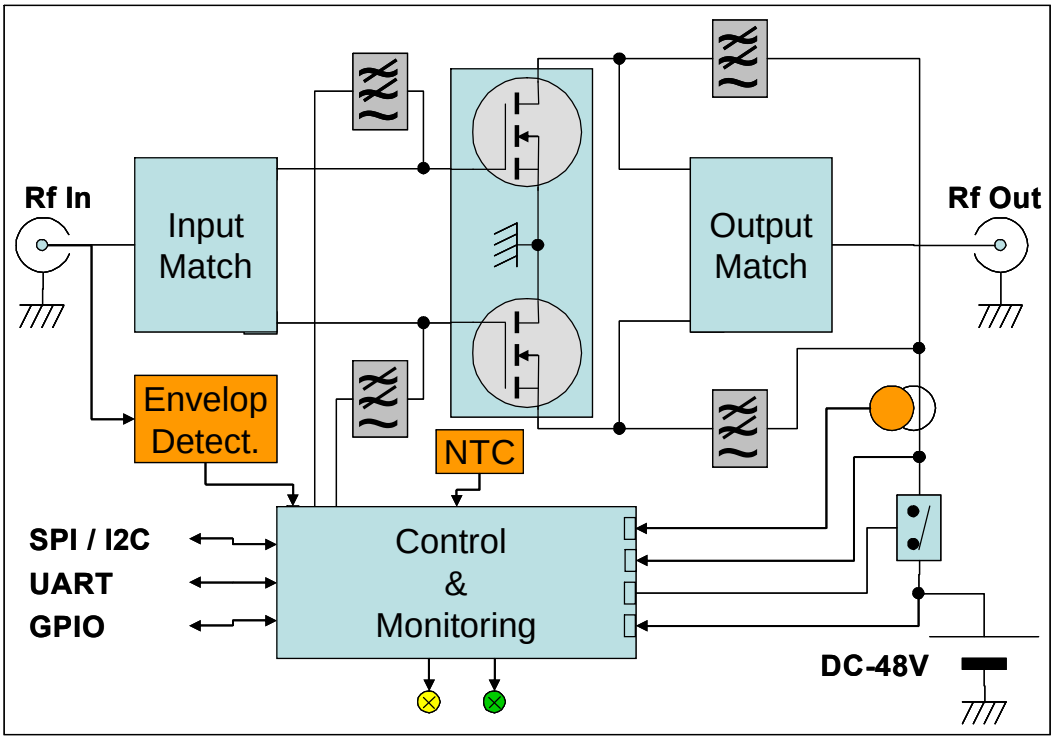
Frequency Range	1255 ÷ 1310 MHz	Working Class	AB
Supply Voltage	48 V ± 5%	Temperature Range	-20 to +45 °C
Supply Current (max)	< 10,0 Amp.	Input Return Loss	> 15 dB
		Output VSWR (no damage)	< 3:1
CW spec. (Tcase = 60°C)	@ Fc = 1296MHz		
Output Power @1dBcp	200 W ± 0,3 dB	Power Gain @1dBcp	> 16,0 dB
Efficiency @1dBcp	> 50% (52% typ)	OIP3 @ (Idq=1,0A)	> 63,0 dBm
Pulse Modulation spec. (Tcase = 25°C)		(Pulse width =20µSec Duty=10%)	
Output Power @1dBcp	250 W ± 0,3 dB	Power Gain @1dBcp	> 17,0 dB
Efficiency @1dBcp	> 55% (57% typ)		

Key Features

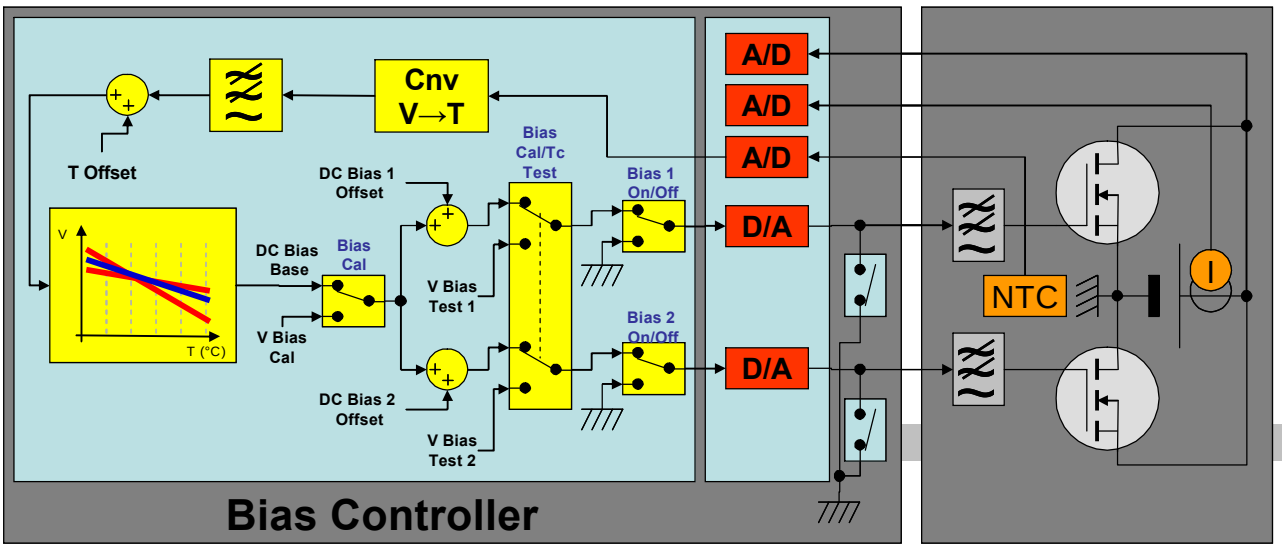
- Microcontroller based intelligent bias for temperature compensation (wide range of bias current)
- Run-time digital bias setting for low distortion and consume optimization
- Power input detection for fast over-driver input protection
- Self test function at power start-up
- Over-temperature, Over-current, Over-voltage protection
- PTT input to set zero power consumption in RX mode
- Remote controlling and monitoring via multi-protocol UART/I2C/SPI serial interface
- Soft-start to minimize DC load transient
- Amplifier working history event log
- LEDs power amplifier status presentation (Stand-by, Calibration, Temperature-Compensated, Alarm)

Product Picture

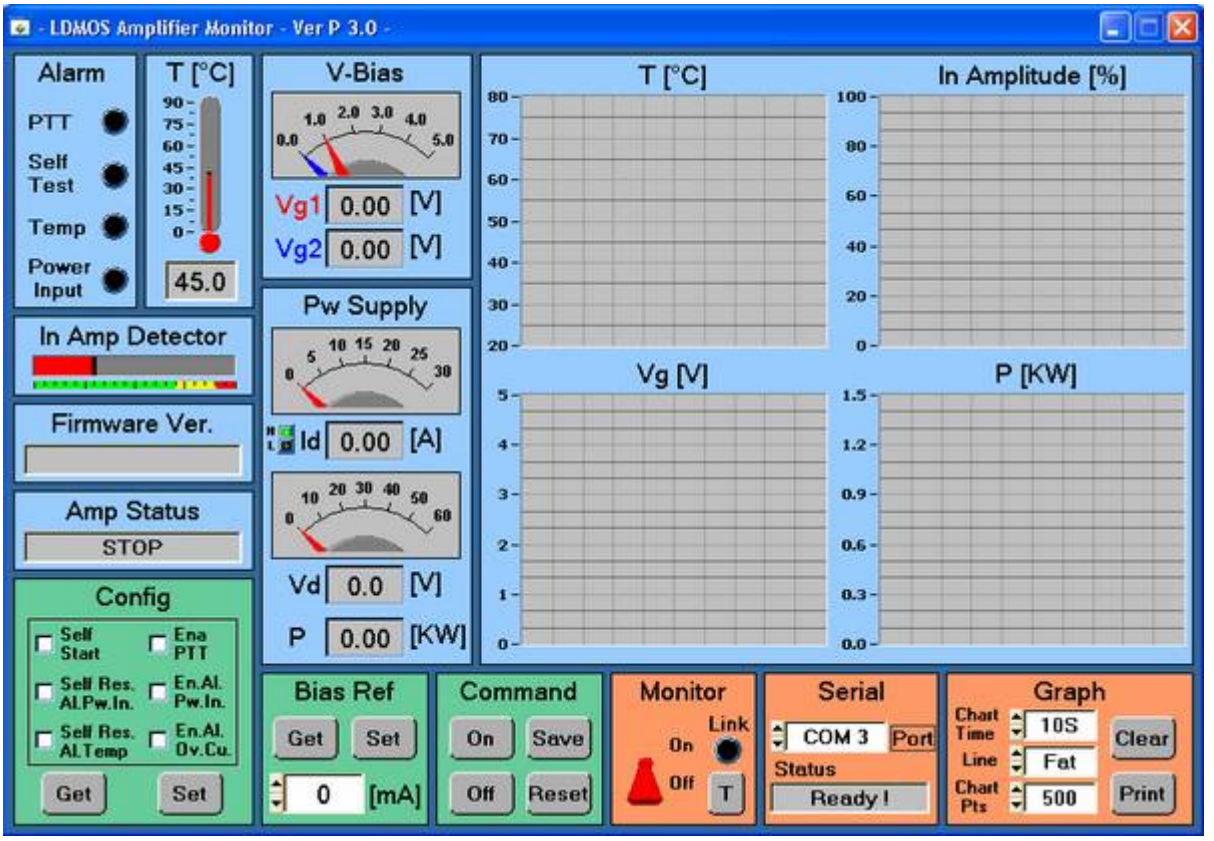
Amplifier Block Diagramm



Bias Control Block Diagram



Control and Monitoring Software Screenshot



Mechanical Specification