

Section 4 Principles of Operation

4-1 Introduction

This section contains functional descriptions for the SPA9329-35N Two-Channel Power Booster Amplifier module.

4-2 RF Input Signal

The maximum input power should not exceed the limits specified in table 1-2.

4-3 RF Output Load

The load impedance should be as good as possible ($VSWR \leq 1.5:1$) in the operating band for good power transfer to the load.

4-4 Amplifier Functional Description

The SPA9329-35N power booster amplifier, shown in figure 4-1, operates in the 1930 MHz to 1990 MHz range. The operating band is determined by the operating frequency selection(s) of the base station (refer to tables 1-2 and 1-3). The amplifier module consists of two single-carrier amplifier pallets with necessary combining and filtering to produce up to 35 watts (45.5 dBm) of output power with a typical gain of 21 dB. The amplifier employs class AB bias for maximum efficiency. The amplifier operates from a -48 Vdc power source.

The amplifier is compliant to requirements of FCC rules with respect to spurious emissions (see tables 1-2 and 1-3). Most of the amplifier gain vs temperature variations are due to LDMOS transistor characteristics.

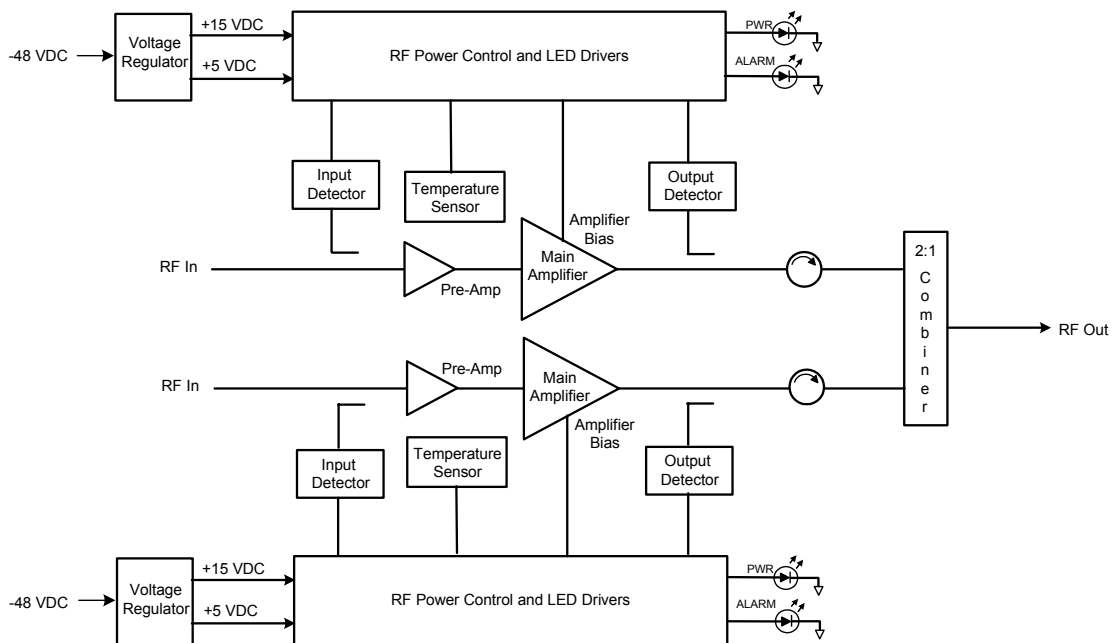


Figure 4-1 SPA9329-35N Booster Amplifier Block Diagram