

Section 4 Principles of Operation

4-1 Introduction

This section contains a functional description of the SPA9329-35 power booster amplifier.

4-2 RF Input Signal

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

4-3 RF Output Load

The load impedance should be as good as possible (1.5:1 or better) in the working band for good power transfer to the load.

4-4 Amplifier Functional Description

The SPA9329-35 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 table 1-2). The amplifier module consists of a single carrier amplifier pallet with the necessary combining and filtering to produce up to 100 watts (50 dBm) of output power with a maximum gain of 23 dB. The amplifier employs a class AB amplifier for maximum efficiency. The amplifier operates on +27 Vdc.

The amplifier is compliant to the requirements of FCC Part 24 with respect to spurious emissions (see table 1-2). All gain variations, for example those due to temperature, are reduced to the passive reference variations.

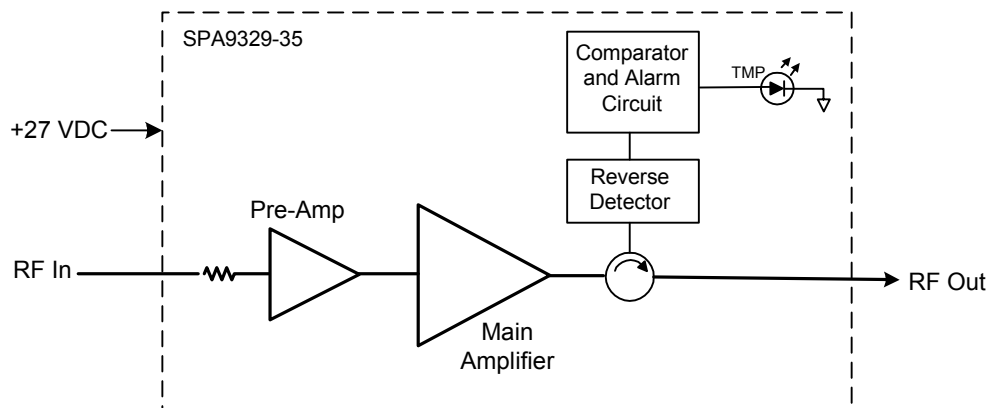


Figure 4-1 SPA9329-35 Booster Amplifier Block Diagram

4-5 Amplifier Module Cooling

Each amplifier module is cooled using a rear-mounted fan circulating air flow across the amplifier heat sinks, the air then exits out the front of the module. This provides sufficient cooling to maintain the amplifier within the specified operating temperature range.

4-6 Power Distribution

Primary DC power for the amplifier is provided by the host system. The amplifier generates all the required voltages internally from the main source.