8GHz to 12GHz, 9W, Front-End IC

FEATURES

- Operates from 8.0GHz to 12GHz
- 39.5dBm typical transmit state P_{OUT} at 8.5GHz to 10.5GHz
- 35dB typical transmit state small signal gain at 8.5GHz to 10.5GHz
- 23dB typical receive state small signal gain at 8.0GHz to 10.5GHz
- Coupled power amplifier output for power detection
- Integrated RF power detector on the transmit path
- Integrated limiter on the receive path

APPLICATIONS

- Phased array antenna
- Military radar
- Weather radar
- Communication links
- Marine radar

FUNCTIONAL BLOCK DIAGRAM

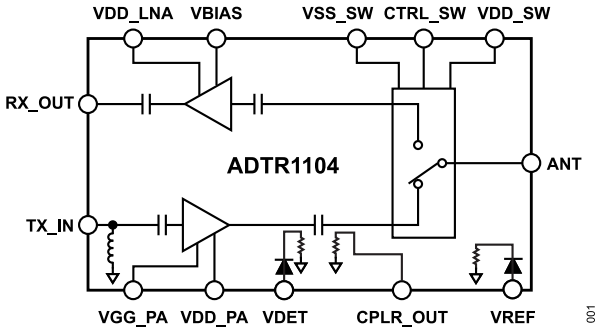

Figure 1. Functional Block Diagram

GENERAL DESCRIPTION

The ADTR1104 is a compact, 8.0GHz to 12GHz, front-end IC with an integrated power amplifier, low noise amplifier (LNA), and a reflective SPDT switch. These integrated features make the device ideal for phased array antenna and radar applications. The front-end IC offers a 39.5dBm typical output power (P_{OUT}) and a 35dB typical small signal gain in the transmit state from 8.5GHz to 10.5GHz, and the ADTR1104 offers a 23dB typical small signal gain in the receive state from 8.0GHz to 10.5GHz. The device has a directional coupler as well as analog voltage outputs for power detection. In addition, the ADTR1104 also includes an integrated limiter that limits the power to the LNA. The RF input and outputs (I/Os) are internally matched to 50Ω.

For more information on the ADTR1104, contact TR.Modules@analog.com.

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