

Features

- Frequency range: 27.5 to 31GHz
- 360° phase adjustment range
 - Step size: 5.625°
- Signal gain (@29GHz): 28dB
- Channel to channel isolation: TBD dB
- Output P₁dB: 11 dBm
- Gain adjustment range: 31.5 dB,
 - Step size: 0.5 dB
- Operating power supply:
 - VDD1P2: +1.2V
 - VDD3P3: +3.3V
 - Internal LDO: +2.5V
- Operating temperature: -40°C to + 85°C
- Integrated temperature sensor
- Package size: 4.4mm×4.4mm×0.58mm
- 4-wire SPI interface

Product description

The ZRF8165 is eight channel transmit active beamforming RFIC designed for application in Ka band planar phased array antennas, each channel has 6-bit of digital shift phase and gain control. The device has a 28dB nominal gain and 11 dBm OP1dB. The device integrated an 8-bit ADC for sampling the outputs of the eight power detectors and the temperature sensor. The chip features ESD protection on all pins.

Control of all the on-chip registers is through a simple 4-wire serial port interface (SPI). In addition, three address pins allow SPI control of up to 8 devices on the same serial lines.

Applications

Satellite communication, array antenna. ground terminal and other communication equipment.

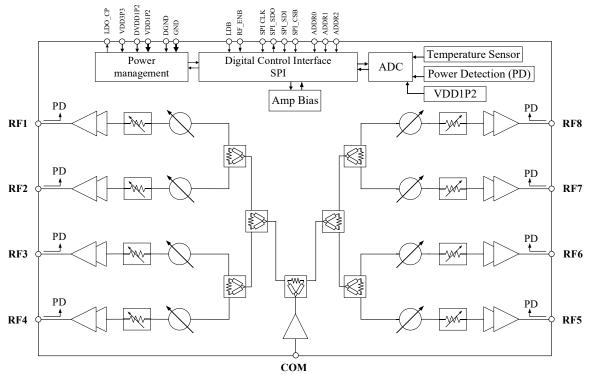


Figure 1. Functional block diagram