

Typical Applications

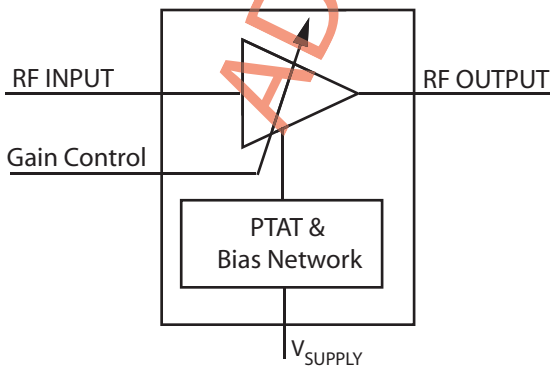
The TRFS-155 is an RF variable-gain amplifier core circuit, designed for use in such applications as:

- WCDMA systems
- UMTS systems

Product Overview

The TRFS-155 is a RF variable-gain amplifier with two gain modes, high linearity, and low power consumption, for applications in the 2110-2170MHz UMTS band. Of the two gain modes, the high-gain mode amplifies weak in-band signals, while the low-gain mode attenuates strong undesired RF signals to improve linearity. The VGA improves reverse isolation of the receiver front-end when used in front of a mixer, and performs impedance transformation from the output of an external SAW filter to the input of the mixer. Mode control provides amplifier shutdown in addition to setting gain. This core circuitry can be easily integrated with other circuits as well as packaged

Block Diagram



Key Features

- Compatible with WCDMA standard
- Dual gain mode of 34.5dB and 14.7dB
- High IIP3 of +13.6dBm in low gain mode
- Low power consumption

Performance Summary

Item	Unit	Min	Typical	Max	Notes
Operating Frequency	MHz	2060	2110-2170	2220	
Supply Voltage	V	2.7	2.85	3.3	
High Gain Mode	dB-Ω		35		
Low Gain Mode	dB-Ω		15		
NF @ max gain	dB		3.5		@2110-2170 GHz
NF @ min gain	dB		17		@2110-2170 GHz
IIP3 High Gain	dBm		-5		
IIP3 Low Gain	dBm		14		
Mode Control	Digital Input	VIL		VIH	VIL turns the section off
Supply Current (High Gain Mode)	mA		3		
Supply Current (Low Gain Mode)	mA		3.0		
Input 1-dB Compression (High Gain Mode)	dBm		-13		
Input 1-dB Compression (Low Gain Mode)	dBm	> +2			
Reverse Isolation	dB		33		@2110-2170 GHz
Input Return Loss	dB		15		@2110-2170 GHz

ADVANCE INFORMATION

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