

# EVAL-CN0518-EBZ Evaluation Board

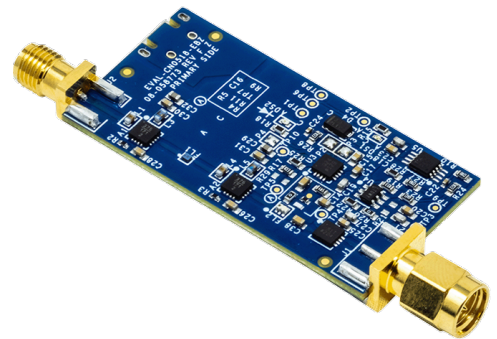
## Product Overview

1/18/2024

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## Description

The EVAL-CN0518-EBZ Evaluation Board from Analog Devices uses a USB-powered RF power amplifier optimized for receiving signal chains in the 915MHz ISM band. Combining two HMC376 amplifiers, the design features a gain of 25dB and return losses of more than 10dB at its center frequency. The EVAL-CN0518-EBZ circuit includes a high-speed overpower cutoff that protects sensitive downstream equipment connected to the receiver system. The receiver system also automatically returns to regular operation when the RF power level drops within the acceptable range.



The ADI EVAL-CN0518-EBZ evaluation board is intended to be used with the ADALM-PLUTO and implements a small form factor with dimensions of 25.4mm × 49.6mm x 1.5748mm (PCB only). The RF input and output are designed with a 50Ω impedance, allowing a direct connection between the circuit and standard 50Ω systems. A micro-USB connector is applied for the input power, enabling the board to use most +5V wall wart power supplies.

The EVAL-CN0518-EBZ utilizes the HMC376, a GaAs, pHEMT, MMIC, and low-noise amplifier with an operating frequency between 700MHz and 1000MHz. The HMC376 amplifier is ideal for GSM and CDMA cellular base station front-end receivers and requires no external matching circuitry.

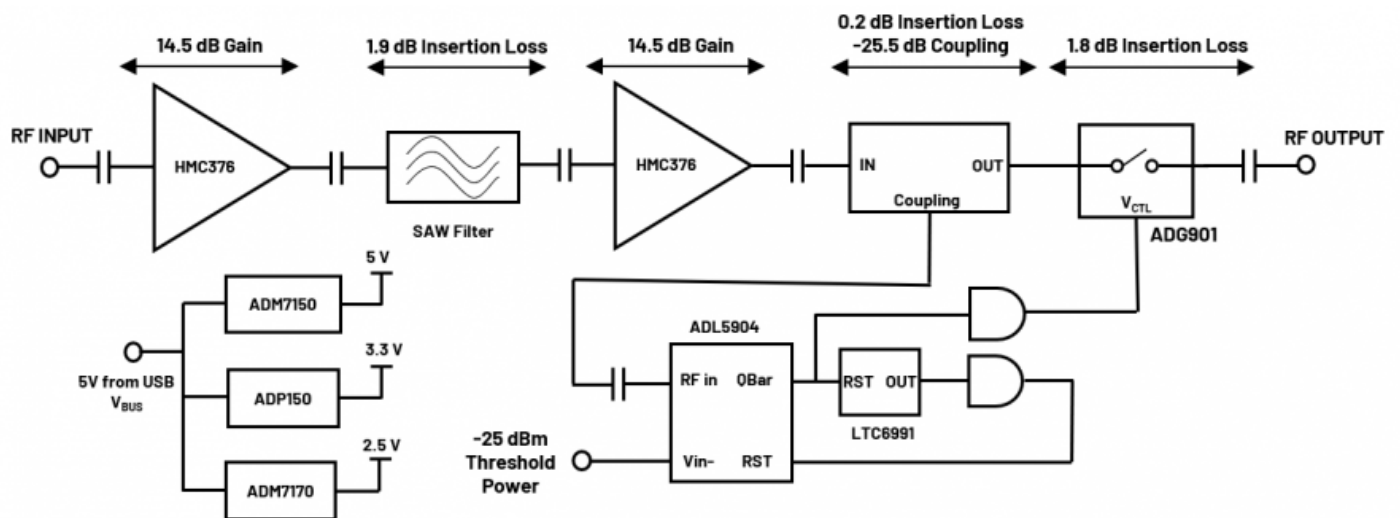
## Features

- 25.4mm × 49.6mm x 1.5748mm dimensions
- 915MHz ISM band signal chains
- 50Ω RF input and output
- Micro-USB connector
- Wooden stand

## Required Equipment

- EVAL-CN0518-EBZ
- ADALM-PLUTO
- 1x SMA male-to-male cable
- 2x micro-USB power adaptors or micro-USB to USB cables for powering ADALM-PLUTO and EVAL-CN0518-EBZ

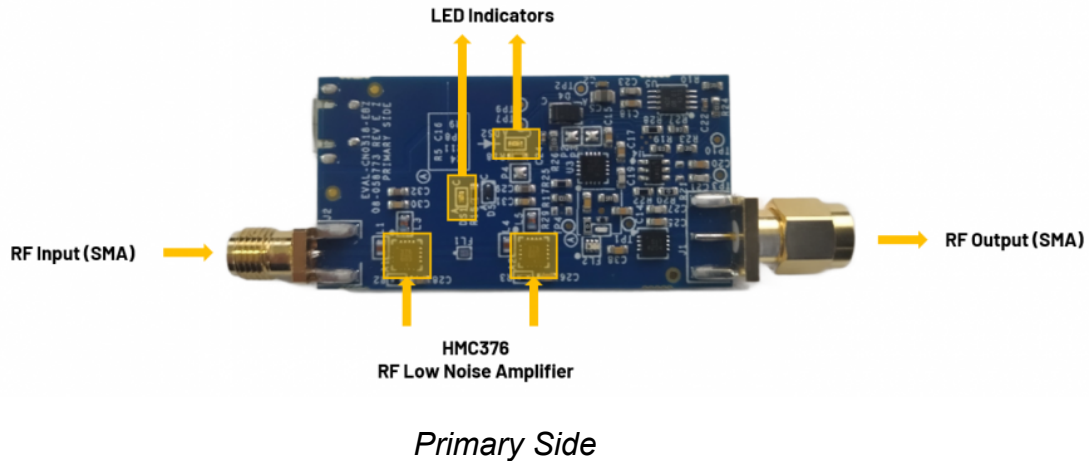
## Simplified Block Diagram



## Test Setup



## Reference Design Hardware



### SMA Connectors

The SMA connectors are used for the RF input and output connections

RF Port	Reference Designator	Description
RF Input (SMA male connector)	J1	Connect to a radio or piece of RF equipment
RF Output (SMA female connector)	J2	Connect to an antenna

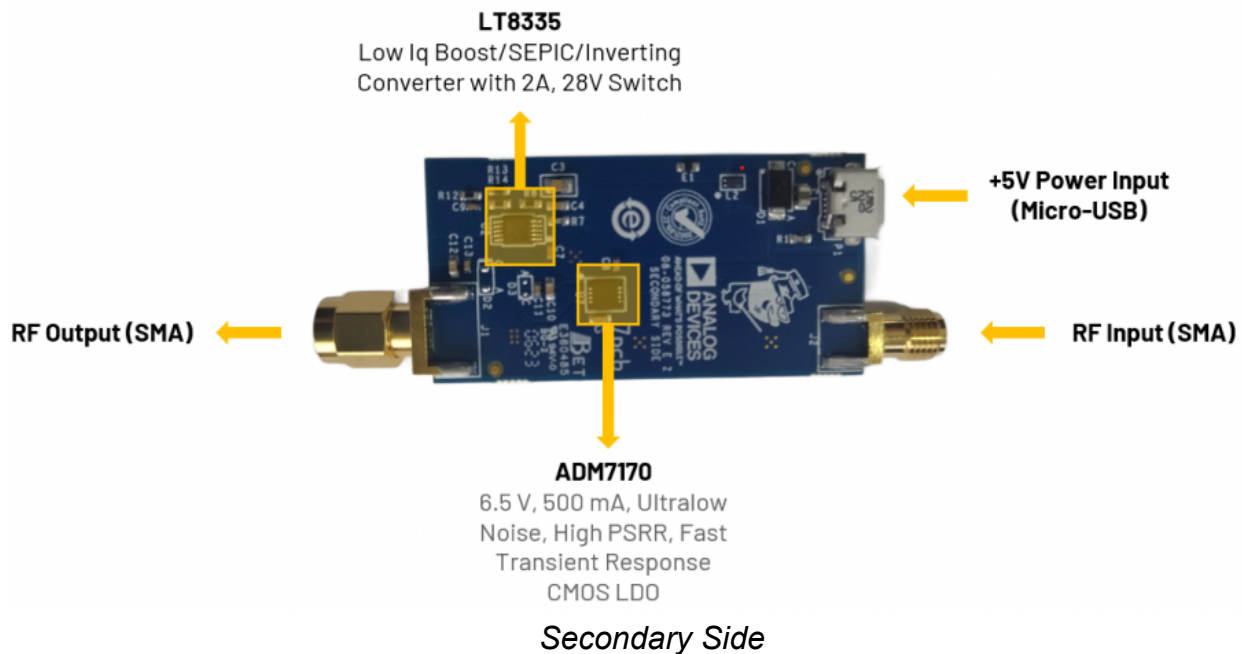
### LED Indicators

The reference design uses two LEDs to indicate its current status:

RF Port	Reference Designator	Description
Green LED	(DS2)	Indicates that power is present on the board
Red LED	(DS1)	Indicates when an overtemperature event occurs

This table shows the board status when the various LEDs are ON/OFF.

Green LED	Red LED	Board Status
OFF	OFF	No Power
ON	OFF	Normal RF Operation
ON	ON	Overpower Event (RF Output Attenuated)



### Power Supply Connector

- P1 is the micro-USB port used to provide +5V power to the board.

## Learn More About

- [User Guide](#)

## Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/adi-eval-cn0518-ebz-board/>