

EVAL-CN0521-EBZ Evaluation Board

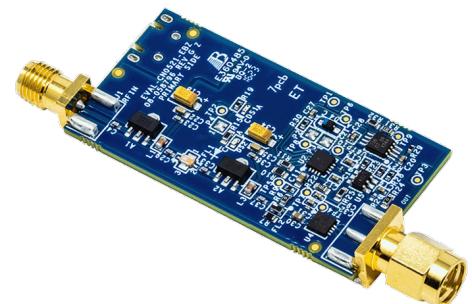
Product Overview

12-13-2023

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

Analog Devices EVAL-CN0521-EBZ Evaluation Board is a USB-powered RF low-noise amplifier optimized for receiving signal chains in the 2.4GHz ISM band. Cascading two HMC639 amplifiers together, the design features a gain of 21dB and return losses of more than 10dB throughout its operation in the RF range. This evaluation board features a high-speed overpower cutoff that protects sensitive downstream equipment connected to the receiver system. The receiver system automatically switches back on once the RF power level drops within the limit.



The EVAL-CN0521-EBZ evaluation board is intended to be used with the ADALM-PLUTO and implements a small form factor with dimensions of 25.4mm x 49.6mm x 1.5748mm (PCB only). This evaluation board utilizes the HMC639, a GaAs, pHEMT, high linearity, and low noise amplifier with an operating frequency from 0.2GHz to 4GHz.

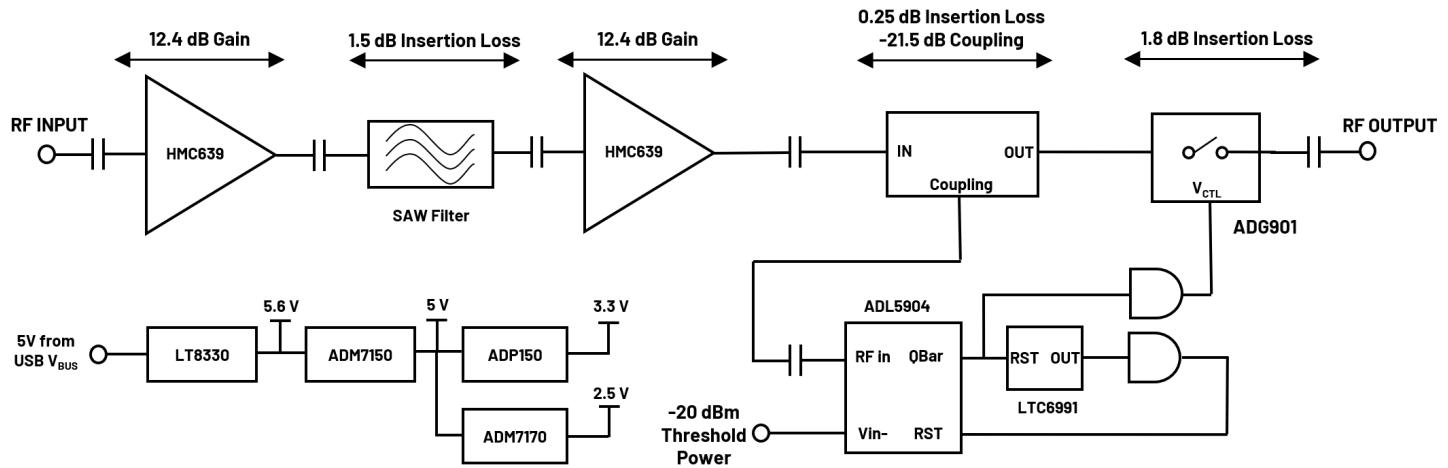
Specifications

- 2.4GHz ISM band signal chains
- 50Ω RF input and output impedance
- Micro-USB connector
- 25.4mm x 49.6mm x 1.5748mm dimensions

Required Equipment

- EVAL-CN0521-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-CN0521-EBZ

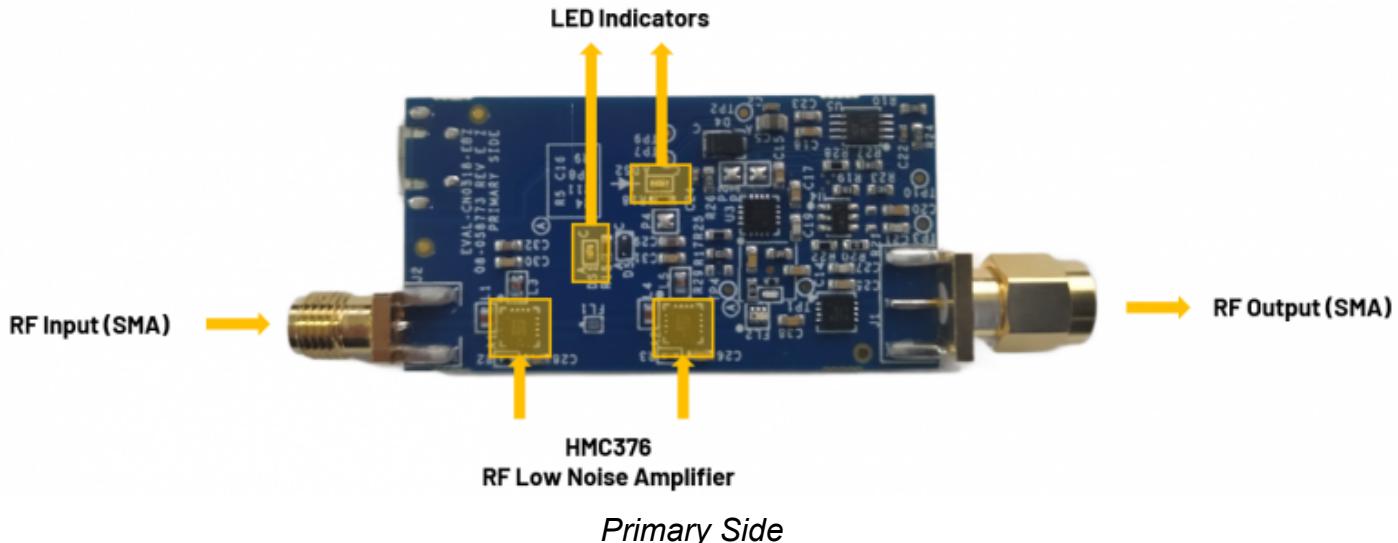
Block Diagram



Test Setup



Hardware Overview



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:

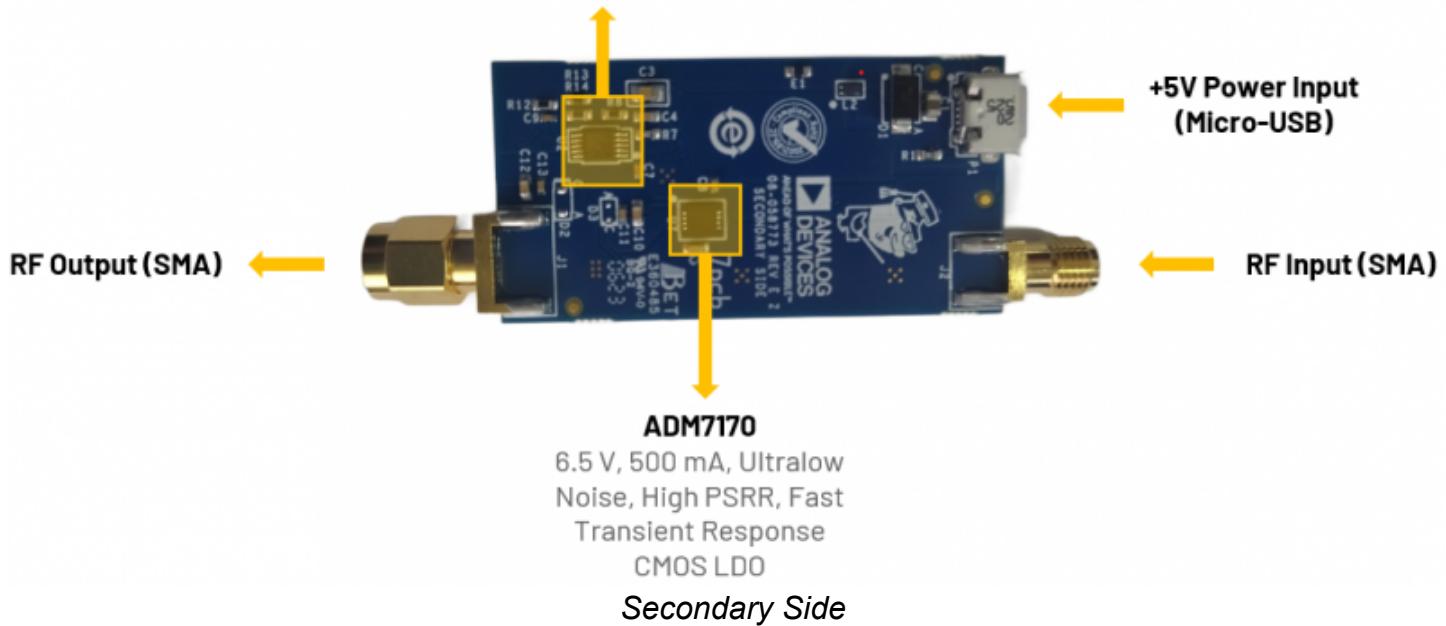
RF Port	Reference Designator	Description
Green LED	(DS2)	Indicates that power is present on the board
Red LED	(DS1)	Indicates when an overtemperature event occurs

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)

LT8335

Low I_q Boost/SEPIC/Inverting
Converter with 2A, 28V Switch



Power Supply Connector

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

Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/analog-devices/adi-eval-cn0521-ebz-board/>