Pacific MicroCHIP Corp.

P23801A Polarimetric Spectrometer ASIC EVAL
Keywords: Polarimetric Spectrometer ASIC, Earth observation, polyphase filter, FFT, ADC

Board Summary

The P23801A spectrometer ASIC EVAL board allows to conveniently evaluate the P23801A ASIC. A picture of the EVAL board is shown in Fig.1. The board can either act as a standalone board for basic evaluation of the P23801A, or it can mate with a Digilent Arty A7 board for full capability, as shown in Fig. 2.
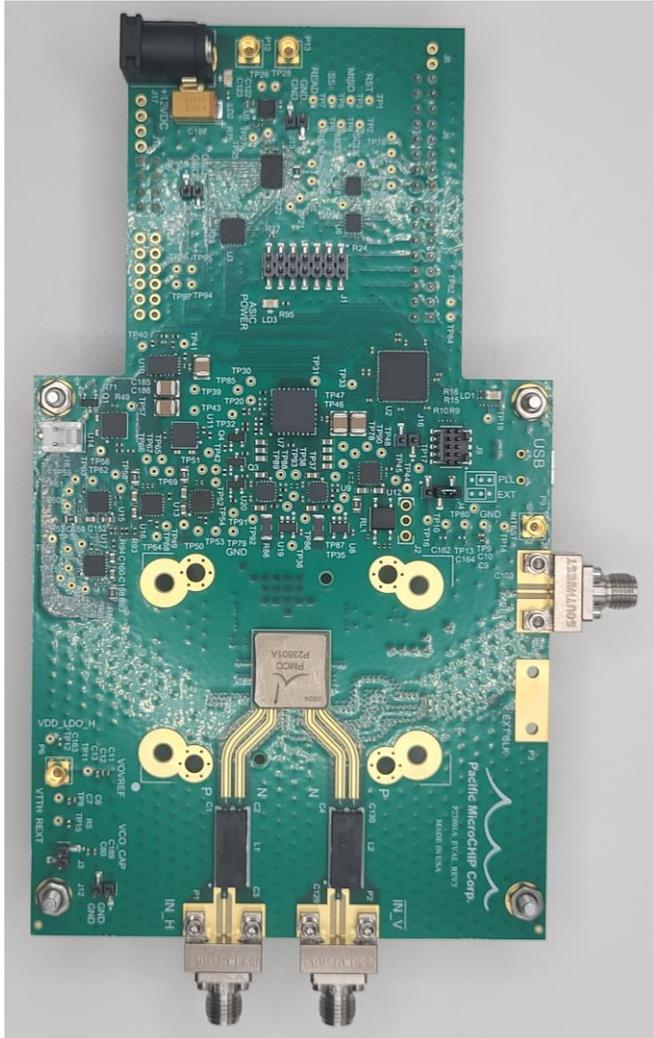

Figure 1. A picture of the P23801A EVAL Board

Figure 2. A picture of the EVAL mated with an Arty A7

Board evaluation capabilities

The evaluation board contains all components needed power the P23801A ASIC. All of the regulators are controlled by the on-board PSoC5LP device. A python library can be provided along with the purchase of the EVAL board, as well as the binary file for an Arty A7 board. The python library can control the PSOC through a USB connection if being used as a standalone board. If the Arty A7 board is mated, the combination can be controlled through a UDP socket over the 100Mbps ethernet connection.

The two analog inputs have a balun on the EVAL board to convert two single-ended signals to differential. The analog inputs and the reference clock ports are standard SMA.

EVAL Board Operation requirements:

- +12V power to the board (adapter included)
- Reference clock equal to 2000MHz / N, where N is an integer form 1 …. 63
- USB connection if being used as standalone
- Ethernet connection if used with an Arty A7 board
- Python version 3.0 or newer

Applications

- Remote sensing instruments
- Radio astronomy
- Planet and Sun exploration missions
- Synthetic aperture radiometers