PE3501
EVALUATION KIT
USER'S MANUAL

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Applications Support

If you have a problem with your evaluation kit or if you have applications questions call (858) 455-0660 and ask for applications support.

You may also contact us by fax or e-mail:

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FCC Compliance Statement

This device is intended for use only in a research and development environment. It has not been tested for compliance with FCC regulations regarding interference with radio frequency energy. It might cause harmful interference with radio communications. The user assumes responsibility for any interference caused by this device.

1. Introduction

The PE3501 is a high performance, low power monolithic divider manufactured using Peregrine's UTSi CMOS process. It features a fixed divide ratio of 4 and can operate with input signals of up to 3.5 GHz. The PE3501 operates on a nominal 3 volts supply and draws only about 12mA of current. The wideband frequency of operation of the PE3501 makes it an ideal part used in a DBS down converter system. Figure 1 illustrates how the PE3501 may be implemented in such a system.
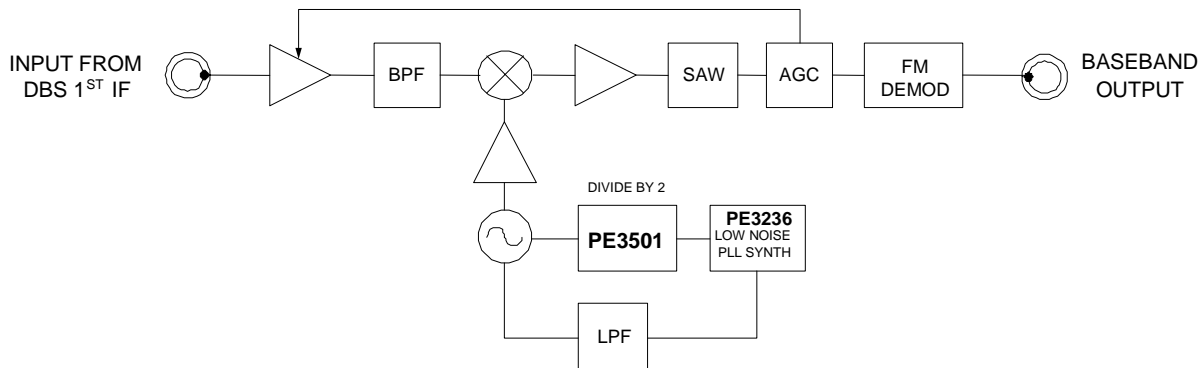

Figure 1. PE3501 System Application

2. Evaluation Board Description

The PE3501 evaluation board is depicted below in Figure 2. The input is driven into the RF In port while the divided output is taken at Out 1. Both input and output contain footprints for AC coupling capacitors (C3 and C1 respectively). The power supply connection is provided near the top of the evaluation board (J2) with the lower pin as the supply and the upper pin as ground. In addition C2, C5, and C10 are placeholders for power supply decoupling capacitors. Placeholders C4, C6, and C8 are needed for required bypass capacitors. **Note: C4 and C6 are located on the underside of the evaluation board.**
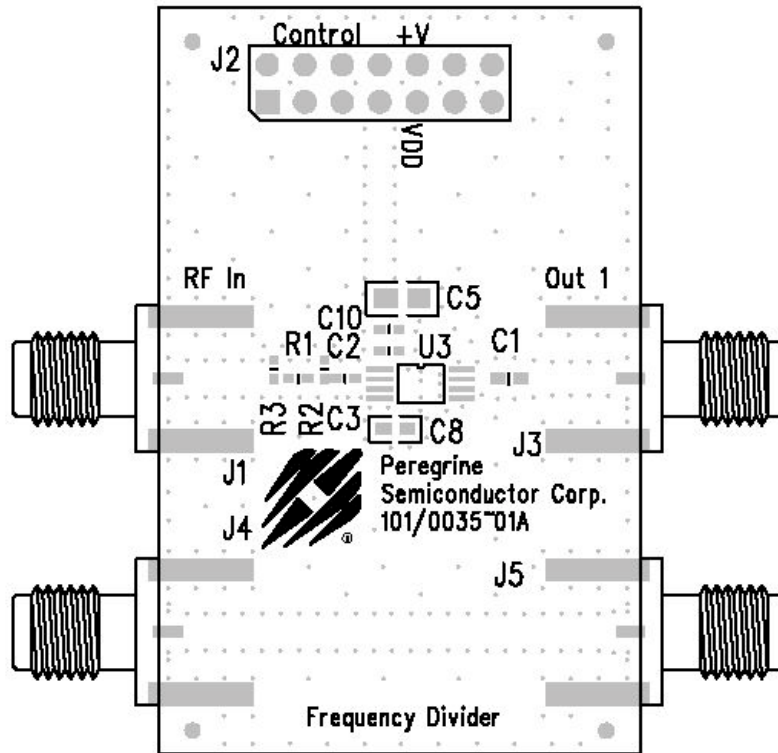
Figure 2. PE3501 Evaluation Board

3. Evaluation Board Test Setup

The PE3501 can be tested on the evaluation board using the test setup shown below in Figure 3. In the test setup, it is essential that the power supply is properly decoupled and bypass capacitors are used for pin 3. In addition, the input and output need to be AC coupled.
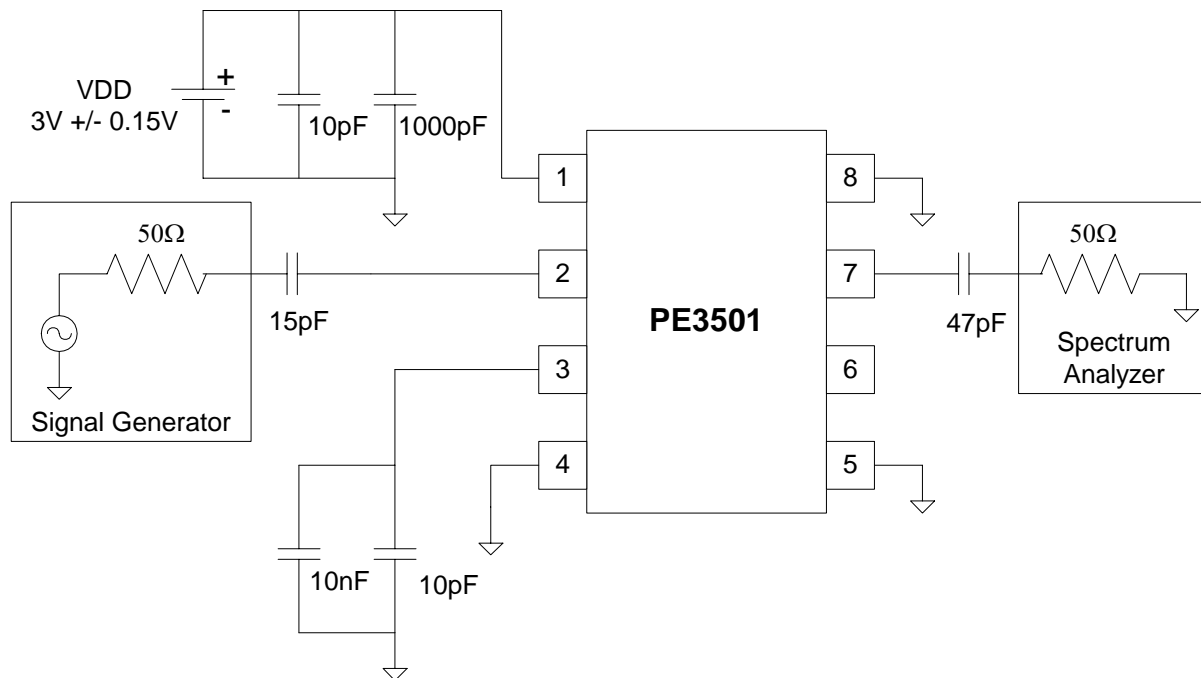
Figure 3. PE3501 Test Setup

4.   Testing

Test measurements were made using the test setup depicted above in Figure 3. With a nominal supply of 3 volts, the input signal generator was swept from 1500 MHz to 3500 MHz with the input power set at –9dBm. The output power was measured with a power meter.

5. Revision History

DCN#	Revision	Date:	Originator:	Description of Change:
01275	00C	04/19/01	D. Jones	Need to update document to reflect new document style and correct grammitical errors. Figure 3 changed tho polarity symbols. (neg. was incorrect)