

Introduction

The MicroClock evaluation board is designed to support the 5X1503/5L1503 devices in a convenient way to verify a MicroClock part on a PCB board solution. The PCB board solution gives users the ability to evaluate MicroClock devices 5X1503 and 5L1503 after a configuration has been verified and programmed through a MicroClock development kit. The IDT [Timing Commander™](#) GUI is available to the devices for configuration and frequency validation through a MicroClock development kit in USB interface. A development kit is needed to work with the evaluation board for programming configurations.

Table 1. MicroClock 5X1503/5L1503 Family of Products

| Product | Description | Package |
|---------|--|---------|
| 5X1503 | 1.8V integrated with an internal 52MHz crystal (standard 5X1503). | 10-DFN |
| 5L1503 | 1.8V using an external crystal (standard 5L1503). | 10-DFN |
| 5X1503L | 1.8V integrated with an internal 52MHz crystal, low output swing at channel 1. | 10-DFN |
| 5L1503L | 1.8V using an external crystal, low output swing at channel 1. | 10-DFN |
| 5X1503S | 1.8V integrated with an internal 52MHz crystal. (support spread spectrum clock). | 10-DFN |
| 5L1503S | 1.8V using an external crystal. (support Spread spectrum clock). | 10-DFN |

For details of product operation, refer to the product datasheet.

Evaluation Board Overview

The evaluation board, soldered with a MicroClock part with all of the necessary components and connections, allows testing the functionality of the configuration. Once a configuration has been verified, users can plug in an evaluation board to a MicroClock Development Kit for final programming (see [Figure 1](#)). A MicroClock development Kit is shown in [Figure 2](#). Please see a development kit user guide for more details.

Figure 1. Evaluation Board Overview (5X1503 integrated with 52MHz crystal evaluation board shown in below)

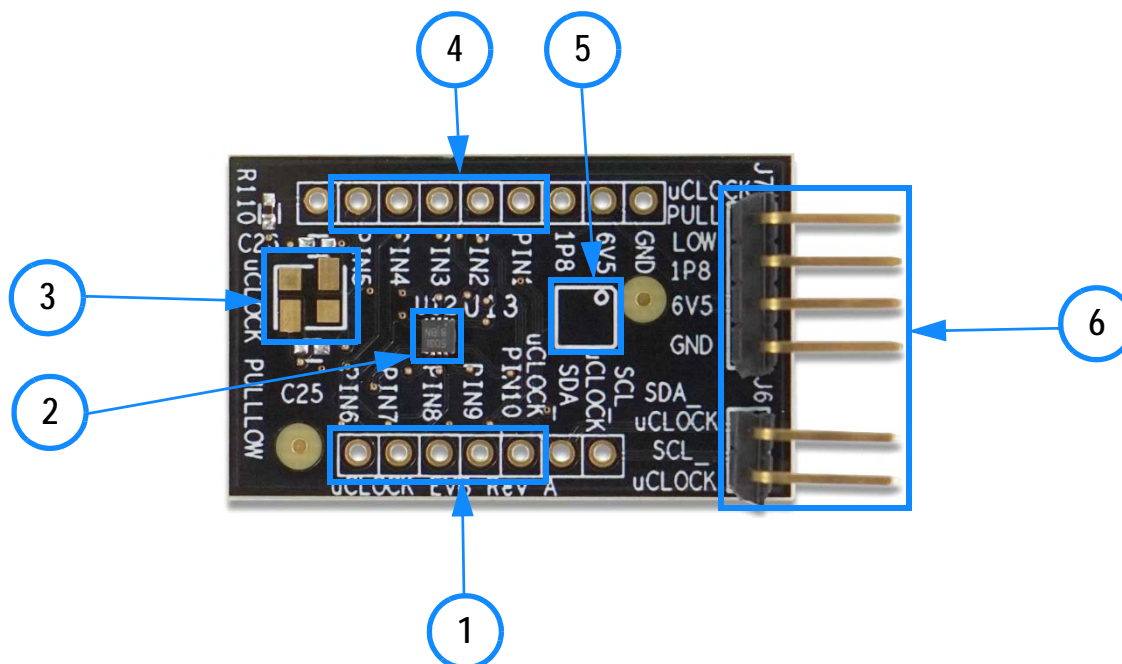
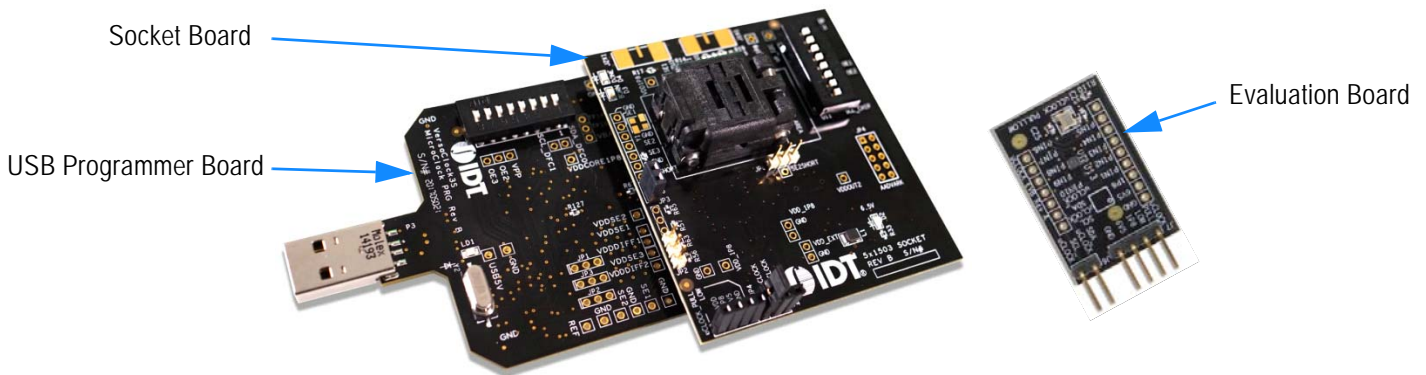


Table 2. Evaluation Board Descriptions

| Label Number | Label Name | Description |
|--------------|-----------------------|---|
| 1 | Test Points | Test points for Pin 6, Pin 7, Pin 8, Pin 9, and Pin 10 (in order of appearance from left to right). |
| 2 | MicroClock Device | MicroClock device soldered on evaluation board (5X1503 integrated with 52MHz crystal). |
| 3 | External crystal | The footprint of external crystal supports: 5L1503 / 5L1503L / 5L1503S (default frequency of crystal is 25MHz). 5X1503 / 5X1503L / 5X1503S (no external crystal populated). |
| 4 | Test Points | Test points for Pin 5, Pin 4, Pin 3, Pin 2, and Pin 1 (in order of appearance from left to right). |
| 5 | Part Indication | Indication for device orientation. |
| 6 | Headers for Connector | A connector split in 2 and 4 headers as connection between socket and evaluation boards. |

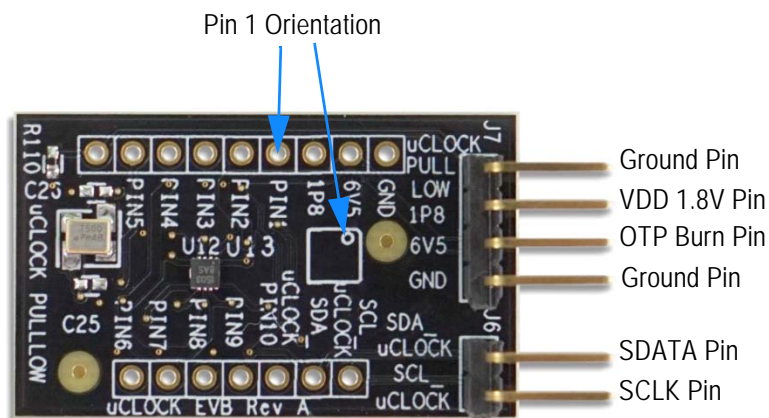
Figure 2. Development Kit Boards



The socket board for all MicroClock products, combined with a USB programmer board, is used for the purpose of validation and measurement on all outputs. The development kit offers two ways to program a configuration to either a blank part in the socket or a blank part soldered on an evaluation board for validation. Blank parts can drop into the socket of the socket board for programming on different MicroClock family devices. The evaluation board is another option for configuration programming so it can be brought over to any system board for clocking support. Note that blank parts can only be burnt once through the socket board. The socket board is bundled with a USB programmer board. The following description and images are restricted to the socket board.

On the footprint of the socket board, a pin orientation identifies the position of Pin 1 as shown in [Figure 3](#). The dot of the blank part printed on the board is represented to be the pin1 orientation.

Figure 3. Evaluation Board (pin position)

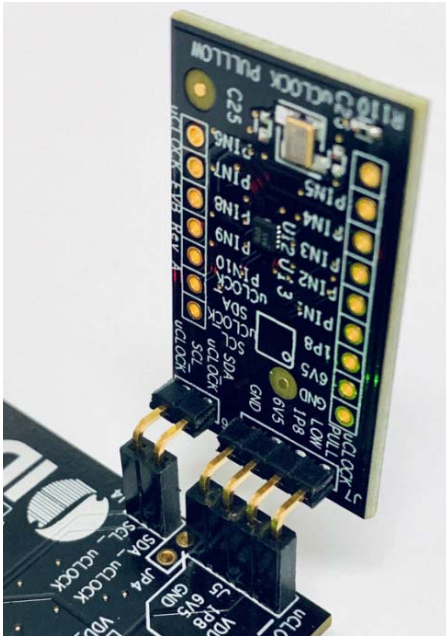


Programming Steps

Refer to the [5x1503 Family Development Kit User Guide](#) for programming details.

Connection with a MicroClock Development Kit

Figure 4. Connection between a Socket Board from the Development Kit and the Evaluation Board



Schematics

Evaluation board schematic is shown below.

Figure 5. Development Kit Evaluation Board Schematic

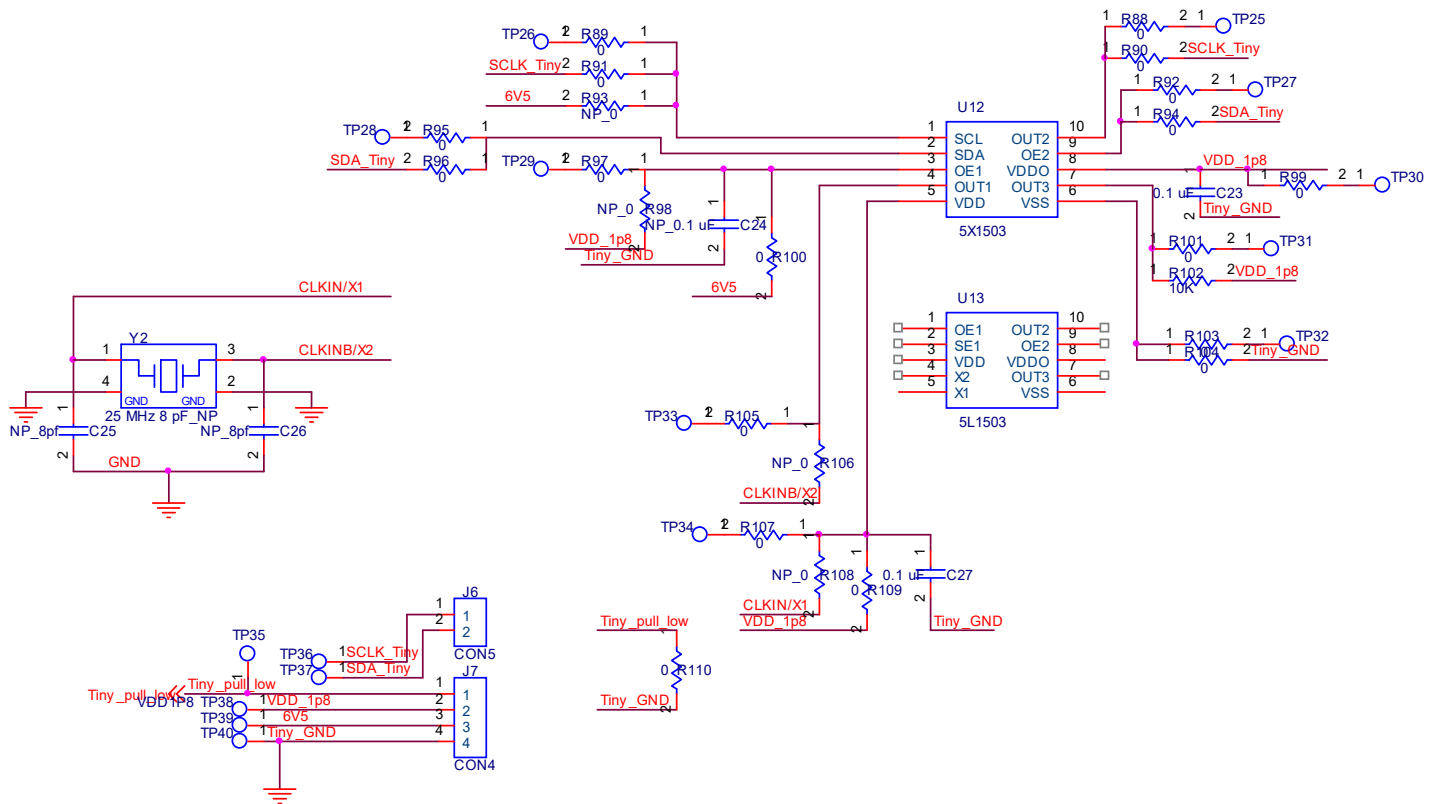


Figure 6. 5X1503 Evaluation Board (board without a crystal)

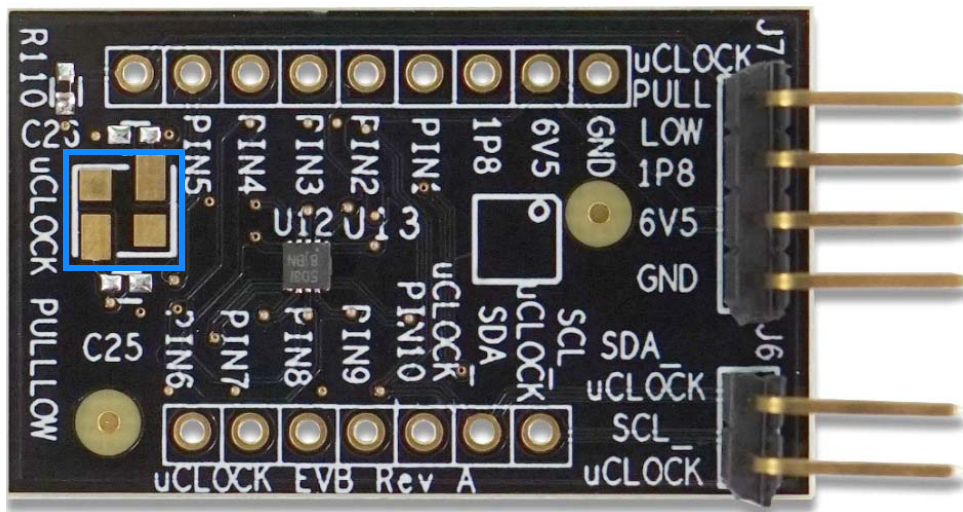
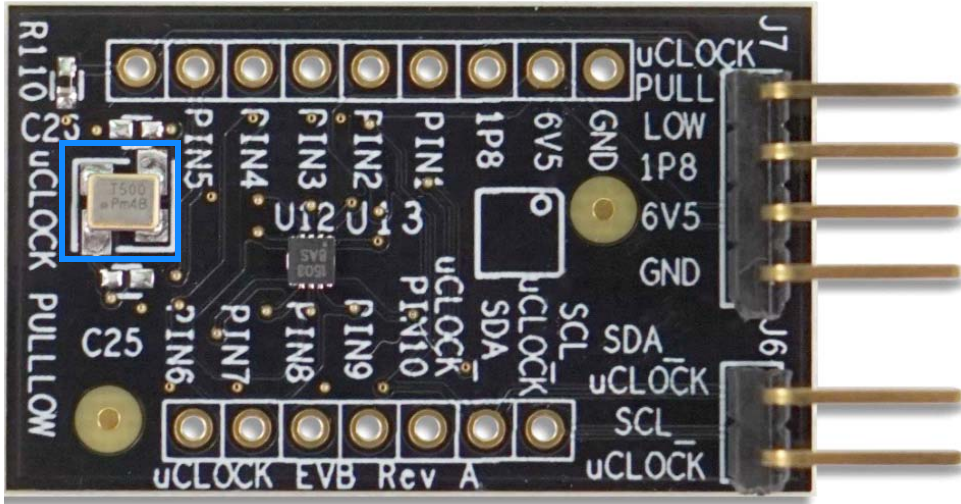


Figure 7. 5L1503 Evaluation Board (board populated with a 25MHz crystal)



Ordering Information

| Orderable Part Number | Description |
|-----------------------|--------------------------------------|
| DEV5L1503 | Development Kit for the 5L1503 |
| DEV5X1503 | Development Kit for the 5X1503. |
| EVB5L1503 | 5L1503 series tiny evaluation board. |
| EVB5X1503 | 5X1503 series tiny valuation board. |

Revision History

| Revision Date | Description of Change |
|---------------|-----------------------|
| July 10, 2019 | Initial release. |



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