

## Introduction

The MicroClock evaluation board is designed to support the 5X2503 and 5L2503 MicroClock devices. The board provides a convenient way of evaluating and configuring the MicroClock devices for the purpose of validation and measurement on all outputs.

Table 1. MicroClock Family Products

| Product | Description                                   | Package |
|---------|---|---------|
| 5X2503  | 1.8V integrated with an internal 26M crystal. | 12-DFN  |
| 5L2503  | 1.8V using an external 26M crystal.           | 12-DFN  |

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

## Evaluation Board Overview

The MicroClock evaluation board is ready with all of the necessary components and connections to test the functionality of the configuration. A programmed device is placed on the evaluation board ready for validation (see [Figure 1](#)).

Figure 1. Evaluation Board Overview

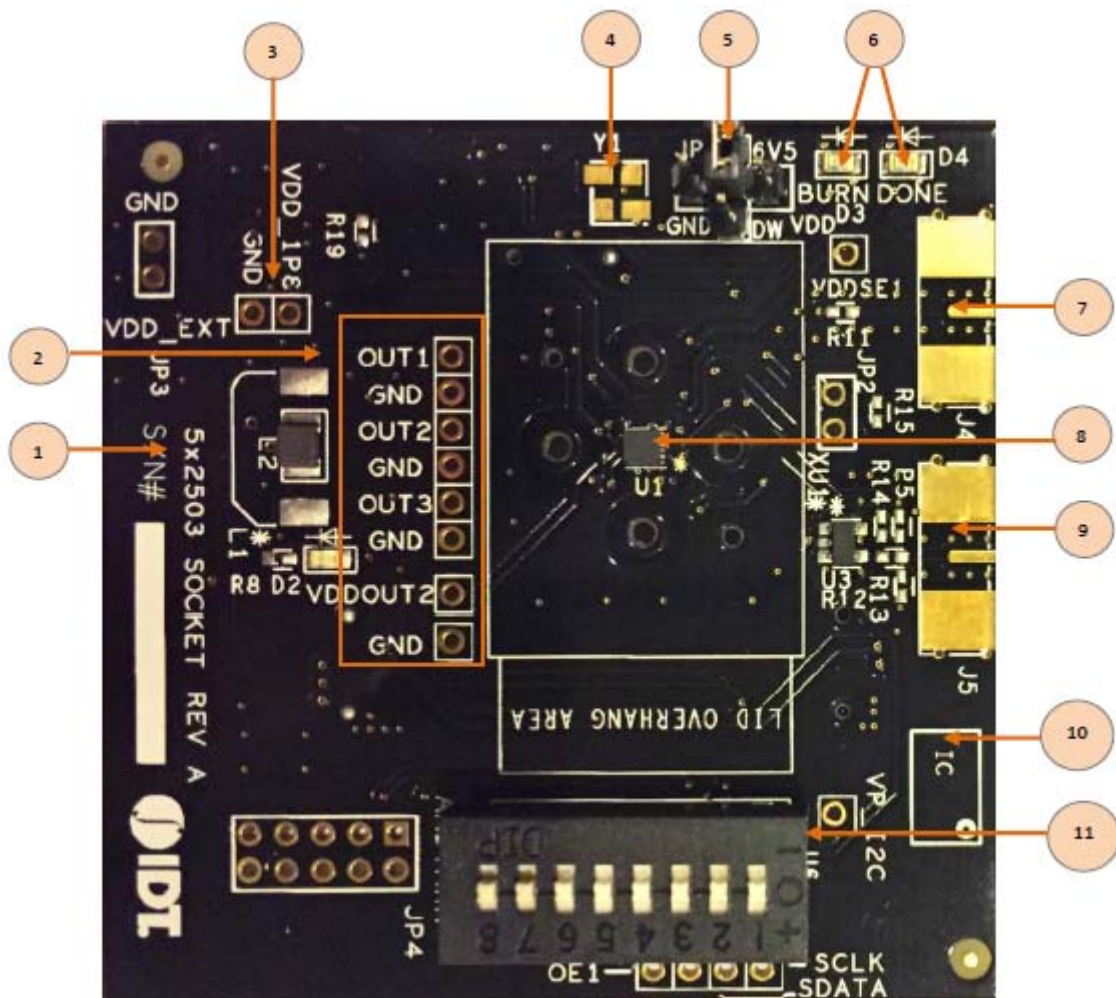
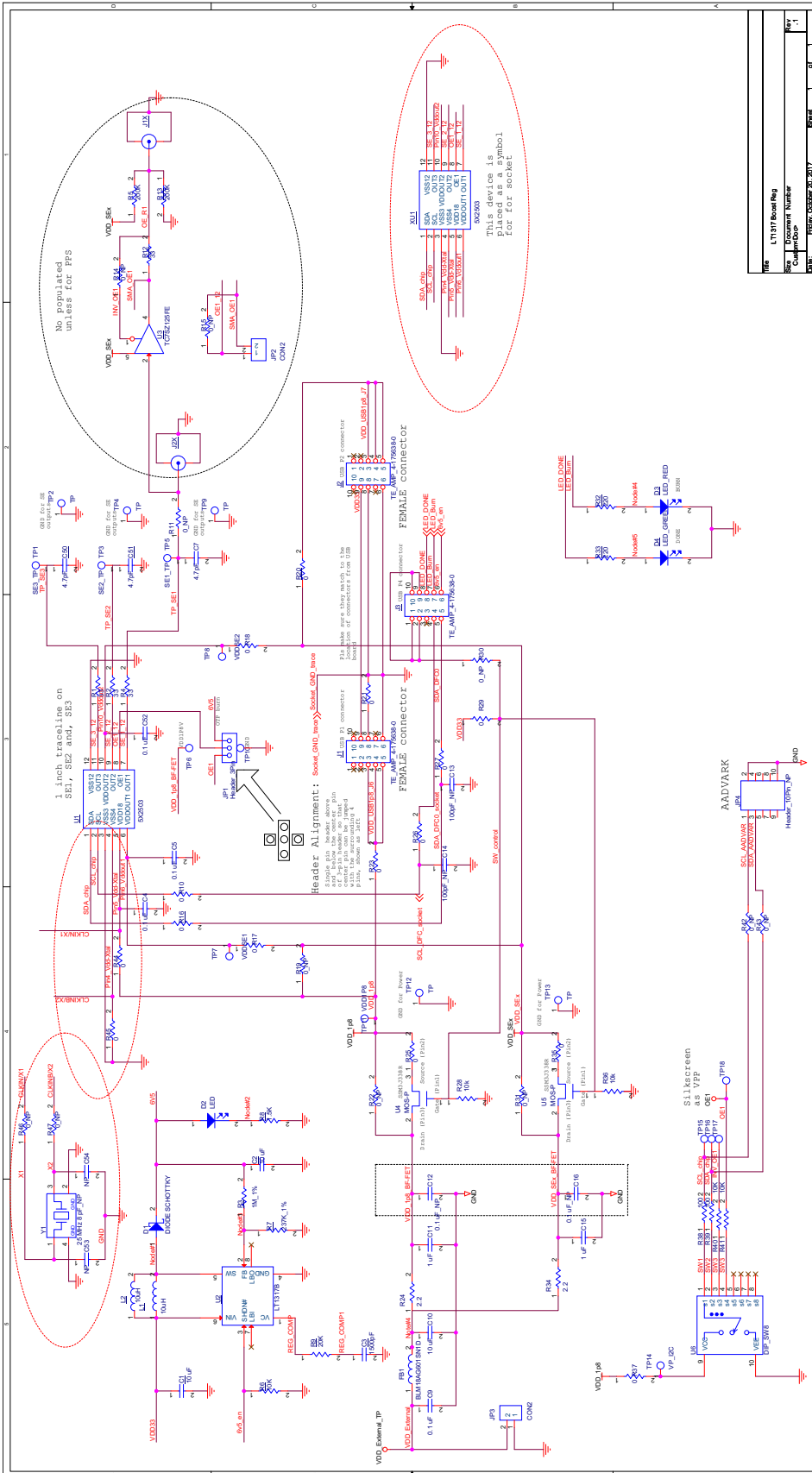


Table 2. Socket Evaluation Board Descriptions

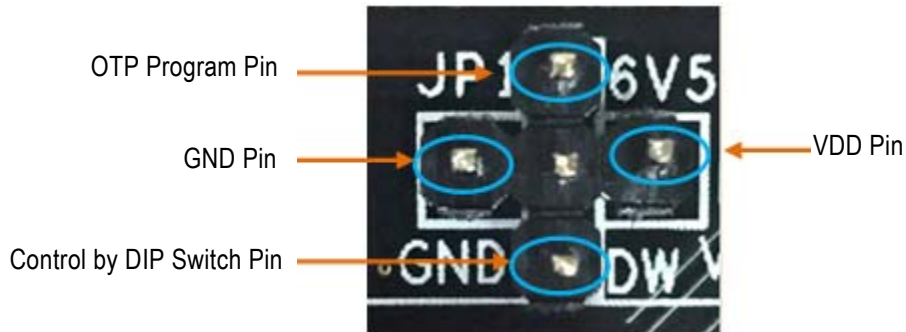
| Label Number | Label Name                         | Description   |
|--------------|------------------------------------|---|
| 1            | Device ID                          | Define the evaluation board supports for 5X2503 or 5L2503.  |
| 2            | Probing Nodes                      | Test points for single-ended outputs; SE1, SE2, SE3 and Reference with GND test points in between.  |
| 3            | Power Supply Nodes                 | Applying external power supply with 1.8V for the core and output voltage. GND node is placed next to the $V_{DD}$ node.                                 |
| 4            | 26MHz Crystal                      | Crystal with 8pF load is populated for 5L2503. For 5X2503; the crystal is not populated.  |
| 5            | Jumper                             | A switch jumper to control OE1 function.  |
| 6            | LEDs                               | Two LED lights to indicate the OTP burn process (for more information, see the <i>MicroClock 5X2503 / 5L2503 Family Development Kit User Manual</i> ).  |
| 7            | SMA connector for OUT1             | Additional frequency test connector using SMA for OUT1.   |
| 8            | MicroClock Part                    | MicroClock device; either 5X2503 or 5L2503.   |
| 9            | SMA Connector for PPS Mode on OUT1 | SMA connector for PPS mode validation.  |
| 10           | Part Indication                    | Indication for device orientation.  |
| 11           | DIP Switch                         | Used to configure the device in different modes (software mode as default for I <sup>2</sup> C control; hardware mode as output pin control selection). |

Figure 2. Evaluation Board Schematic



OE1 pin on MicroClock evaluation board provides multiple functions. See the description in below (Figure 3). Note that the OTP program pin is an additional function for the MicroClock development kit. Refer to development kit user guide for further information.

Figure 3. Jumper Setup



## Termination Options

Table 3. Termination Options for Single-ended Output -1

| Signal Type | Series Resistor, R4 |
|-------------|---------------------|
| LVC MOS     | 33Ω                 |

Table 4. Termination Options for Single-ended Output -2

| Signal Type | Series Resistor, R2 |
|-------------|---------------------|
| LVC MOS     | 33Ω                 |

Table 5. Termination Options for Single-ended Output -3

| Signal Type | Series Resistor, R1 |
|-------------|---------------------|
| LVC MOS     | 33Ω                 |

Figure 4. 5X2503 Evaluation Board (Board without Crystal)

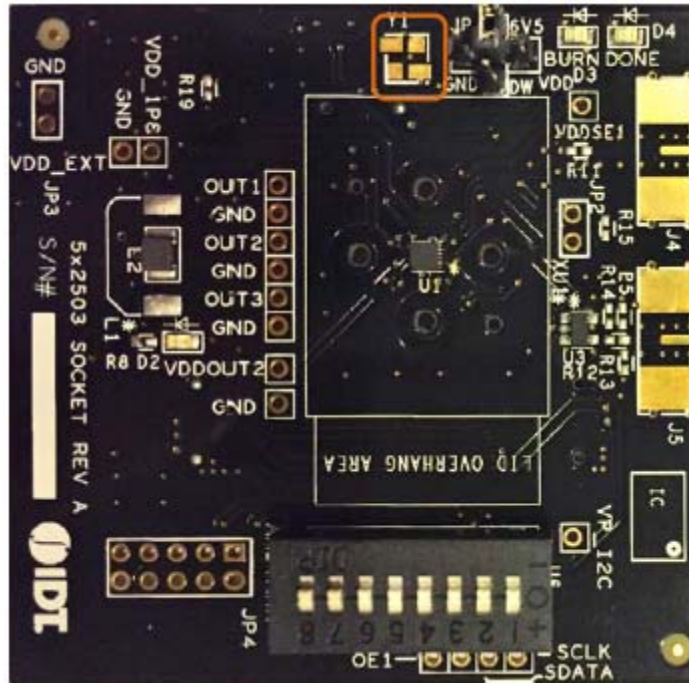
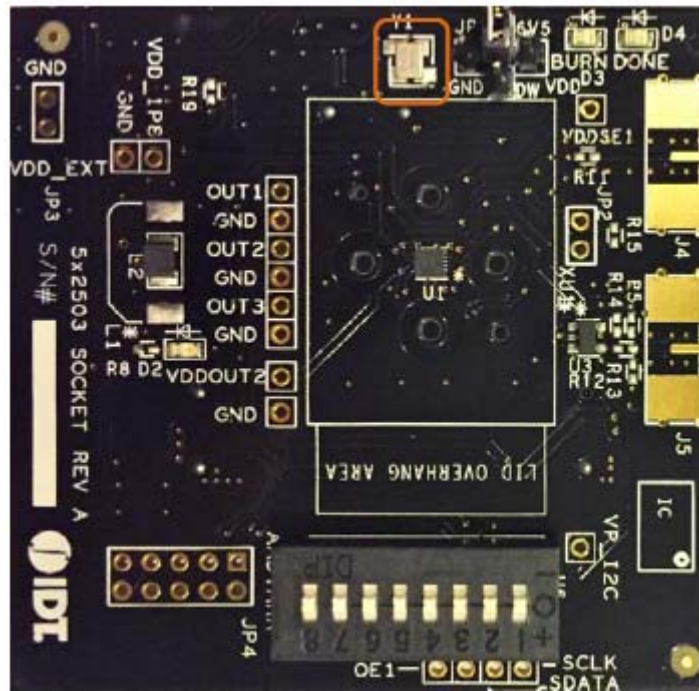


Figure 5. 5L2503 Evaluation Board (Board Populated with a 26MHz Crystal)



## Revision History

| Revision Date    | Description of Change |
|------------------|-----------------------|
| October 25, 2017 | Initial release.      |