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).
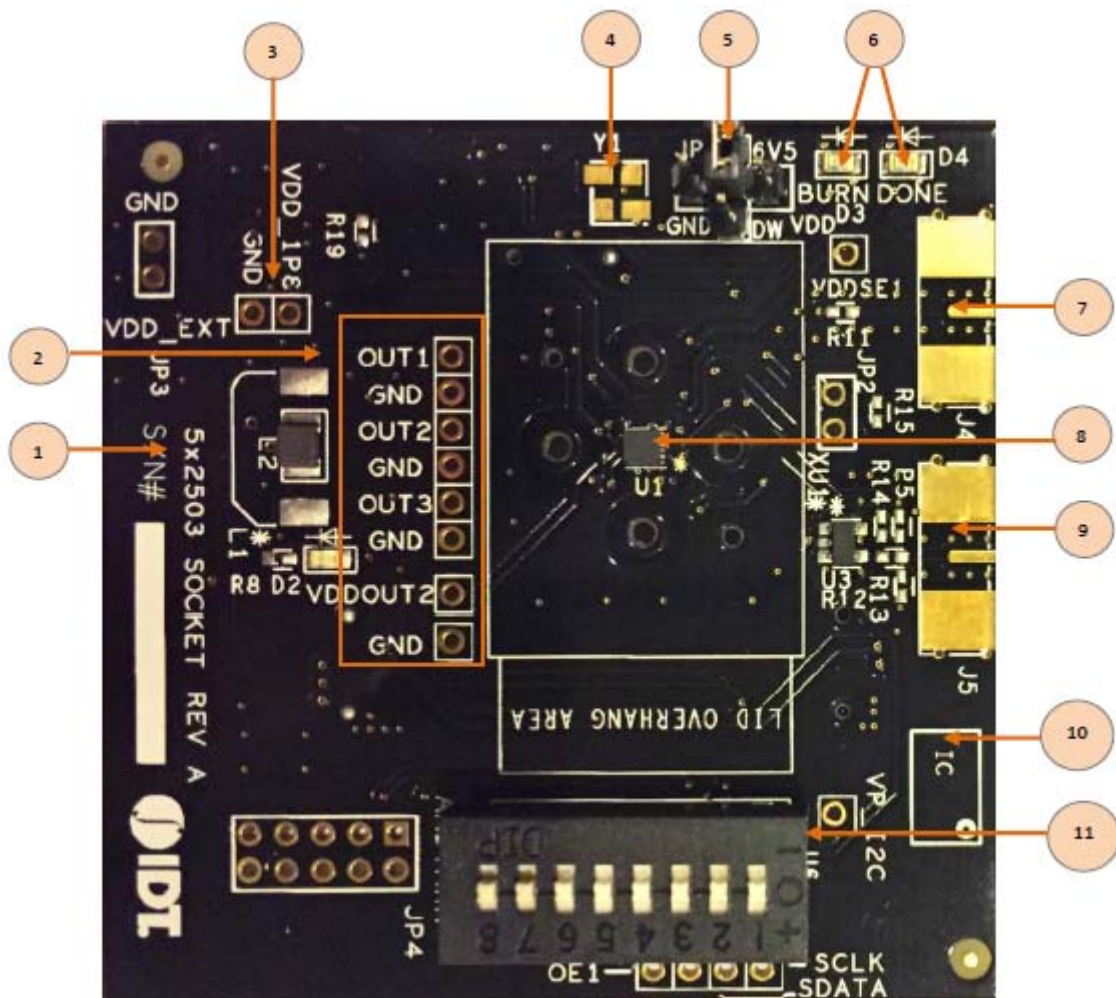
Figure 1. Evaluation Board Overview

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 *MicroClock 5X2503 / 5L2503 Family Development Kit User Manual*).
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^{2}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

OTP Program Pin →

GND Pin →

← VDD Pin

Control by DIP Switch Pin →
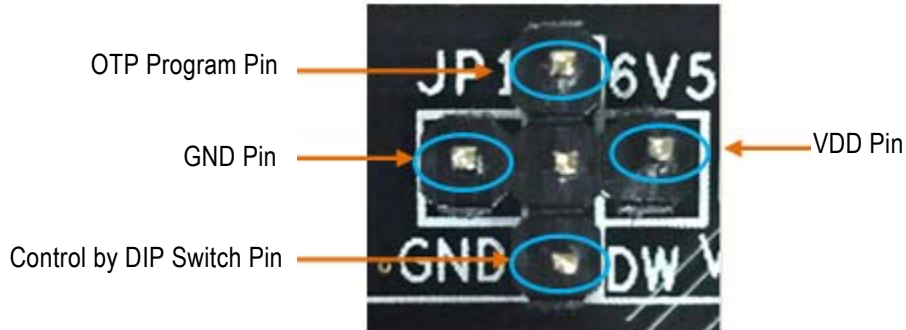
Termination Options

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

Signal Type	Series Resistor, R4
LVCMOS	33Ω

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

Signal Type	Series Resistor, R2
LVCMOS	33Ω

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

Signal Type	Series Resistor, R1
LVCMOS	33Ω

Figure 4. 5X2503 Evaluation Board (Board without Crystal)
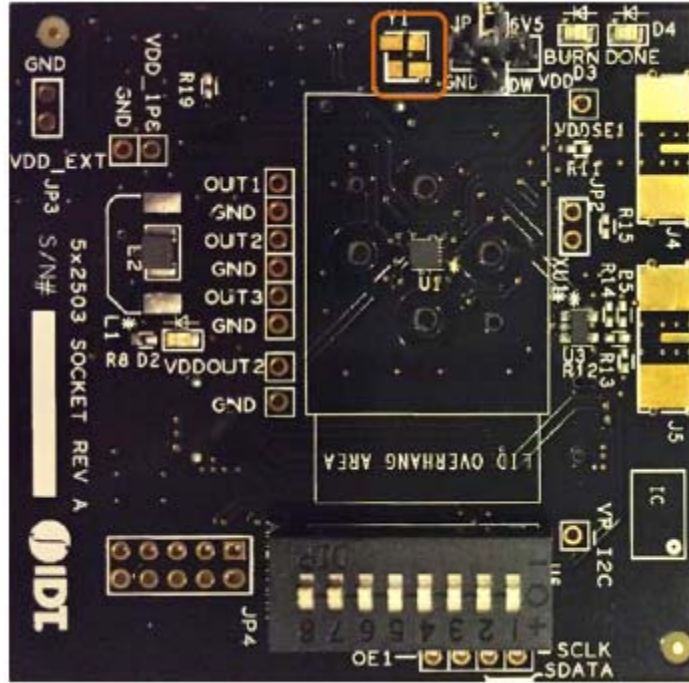
Figure 5. 5L2503 Evaluation Board (Board Populated with a 26MHz Crystal)
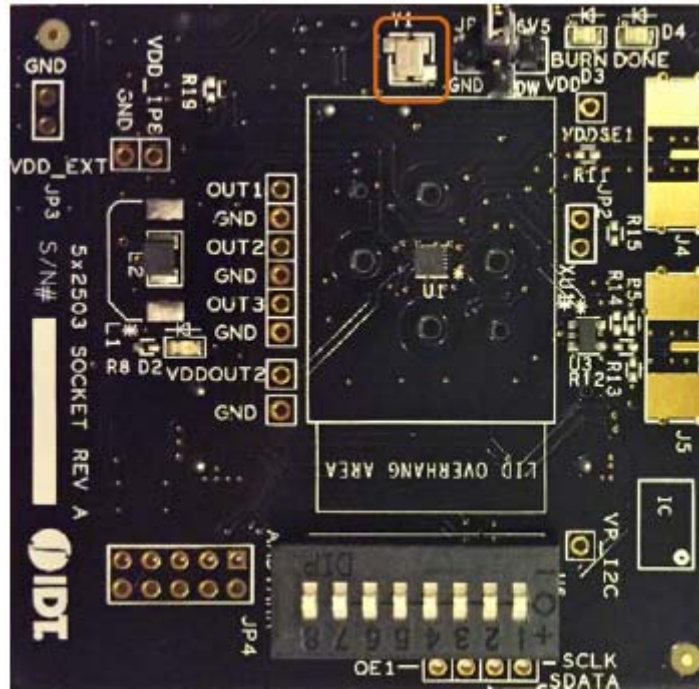
Revision History

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

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