

# IGLOO2 FPGA Evaluation Kit Quickstart Card

## Kit Contents – M2GL-EVAL-KIT

| Quantity | Description                                                                 |
|----------|-----------------------------------------------------------------------------|
| 1        | IGLOO2 FPGA 12K LE M2GL010T-1FGG484                                         |
| 1        | 12 V/ 2 A Wall-Mounted Power Supply                                         |
| 1        | FlashPro4 JTAG programmer                                                   |
| 1        | USB 2.0 A-male to mini-B Y-cable for UART/power interface (up to 1 A) to PC |
| 1        | Quickstart Guide                                                            |
| 1        | Libero SoC Gold Software License                                            |
| 1        | PCIe Control Plane Demo Design                                              |

*Note:* The M2GL-EVAL-KIT is RoHS compliant.

## Overview

Microsemi's **IGLOO<sup>®</sup> 2 FPGA Evaluation Kit** is the lowest cost FPGA platform for developing cost-optimized FPGA designs using Microsemi's IGLOO2 FPGAs, which offers best-in-class feature integration coupled with the lowest power, highest reliability, and the most advanced security in the industry. The IGLOO2 FPGA Evaluation Kit makes it easy to develop transceiver I/O-based FPGA designs to build PCI Express and Gigabit Ethernet-based systems. The board is also small form-factor PCIe<sup>®</sup> compliant, which will allow quick prototyping and evaluation using any desktop PC or laptop with a PCIe slot.

The kit enables you to:

- Develop and test PCI Express<sup>®</sup> Gen2 x1 lane designs
- Test signal quality of the FPGA transceiver using the full-duplex SERDES SMA Pairs
- Measure the low power consumption of the IGLOO2 FPGA
- Quickly create a working PCIe link with the included PCIe Control Plane Demo

The board includes an RJ45 interface to 10/100/1000 Ethernet, 512 MB of LPDDR, 64 MB SPI Flash, and USB-UART connections, as well as I<sup>2</sup>C, SPI, and GPIO headers. The kit includes a 12 V power supply but can also be powered via the PCIe edge connector. Also included is a free Gold License for the Libero<sup>®</sup> SoC software toolset to enable FPGA development and to utilize the reference designs made available with the kit. In addition, a FlashPro4 JTAG programmer is included for programming and debugging.

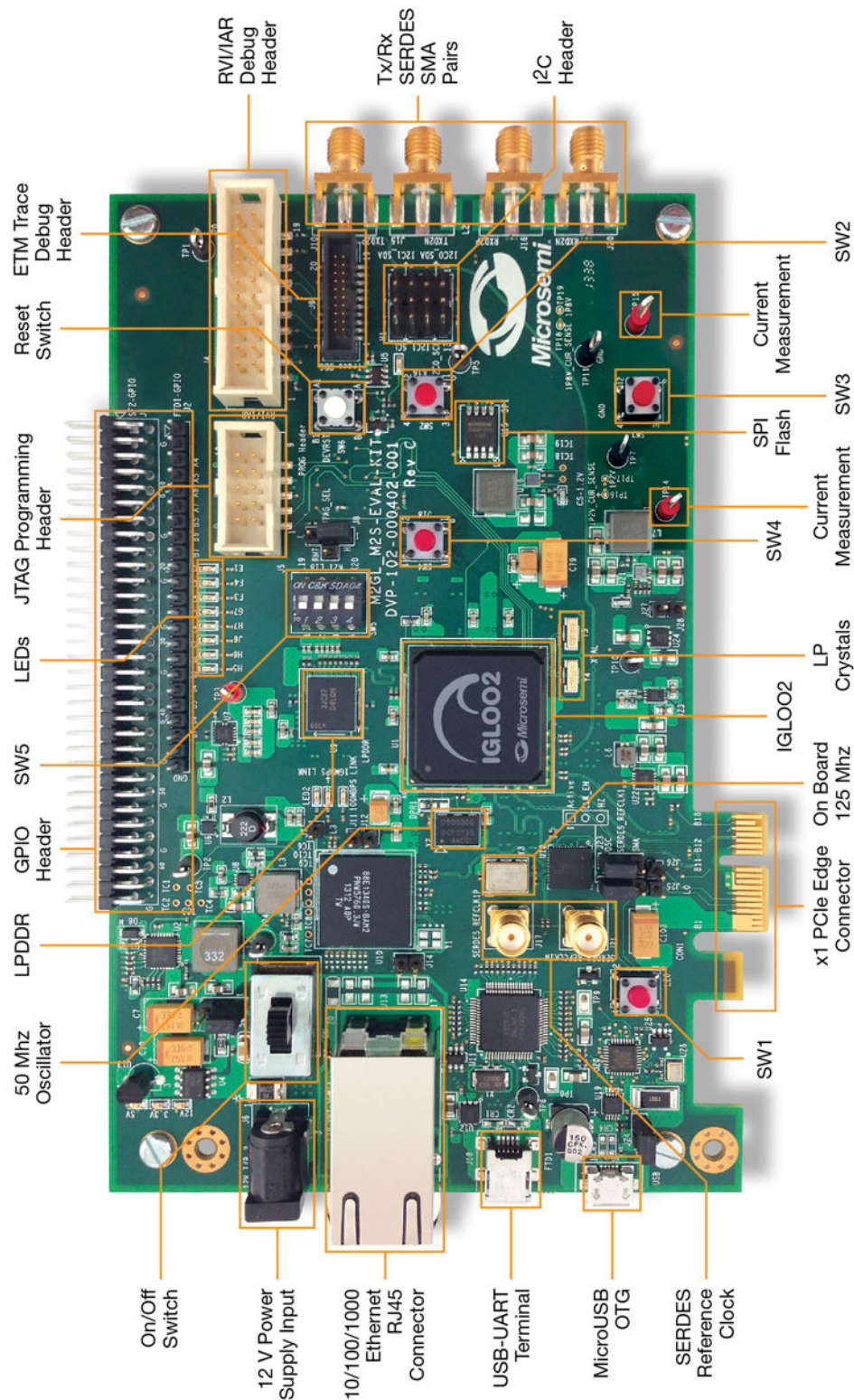
## Hardware Feature Overview

- 12K LE IGLOO2 FPGA in the FGG484 package (M2GL010T-1FGG484)
- 64 MB SPI Flash memory
- 512 MB LPDDR
- PCI Express Gen2 x1 interface
- Four SMA connectors for testing of the full-duplex SERDES channel
- RJ45 interface for 10/100/1000 Ethernet
- JTAG/SPI programming interface
- Headers for I<sup>2</sup>C, SPI, GPIOs
- Push-button switches and LEDs for demo purposes
- Current Measurement Test Points

## Running the Demo

The IGLOO2 FPGA Evaluation Kit ships with the PCI Express Control Plane demo preloaded. For instructions on running the demo and for more information, refer to the IGLOO2 FPGA Evaluation Kit PCIe Control Plane Demo User's Guide:

<http://www.microsemi.com/products/fpga-soc/design-resources/dev-kits/igloo2/igloo2-evaluation-kit>.



1. Recommending to use the following cable: <http://www.pasternack.com/sma-male-sma-male-pe-sr405flj-cable-assembly-pe39429-12-p.aspx>

## Software and Licensing

The IGLOO2 FPGA Evaluation Kit is supported by the Libero System-on-Chip (SoC) v11.1 or later, which includes a web install option. SoftConsole Software IDE and FlashPro are enabled by default in the web install; these software tools can be used for software design and debug. Refer to the *IGLOO2 FPGA Evaluation Kit User's Guide* for more information at:

<http://www.microsemi.com/products/fpga-soc/design-resources/dev-kits/igloo2/igloo2-evaluation-kit>.

Software releases: [www.microsemi.com/download/software/libero](http://www.microsemi.com/download/software/libero).

Libero SoC software requires a valid Gold, Platinum, or Standalone Libero software license.

If you need a new license, select FREE Libero SoC Gold license and request a new one from your Microsemi Customer Portal account. This license supports all tools for designing with the IGLOO2 family and associated development kits.

License updates: <http://www.microsemi.com/products/fpga-soc/design-resources/licensing>.

## Documentation Resources

For further kit information, including user's guide, tutorial, and full design examples, refer to the IGLOO2 FPGA Evaluation Kit page: <http://www.microsemi.com/products/fpga-soc/design-resources/dev-kits/igloo2/igloo2-evaluation-kit>.

As new demos and tutorials become available, they will be posted on: <http://www.microsemi.com/products/fpga-soc/design-resources/dev-kits/igloo2/igloo2-evaluation-kit>. Microsemi recommends that you sign up for Product Updates to be notified when new material is available. You can sign up for product updates from your Microsemi Customer Portal account: <http://soc.microsemi.com/Portal/DPortal.aspx?v=1>.

## Technical Support and Contacts

Technical support is available online at [www.microsemi.com/soc/support](http://www.microsemi.com/soc/support) and by email at [soc\\_tech@microsemi.com](mailto:soc_tech@microsemi.com). Microsemi SoC Sales offices, including Representatives and Distributors, are located worldwide. To find your local representative visit [www.microsemi.com/soc/company/contact](http://www.microsemi.com/soc/company/contact).



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