

IGLOO™ Icicle™ Kit

**BATTERY-POWERED ICICLE EVALUATION BOARD DEMONSTRATES
EXTENDED BATTERY LIFE FOR PORTABLE DESIGNS**

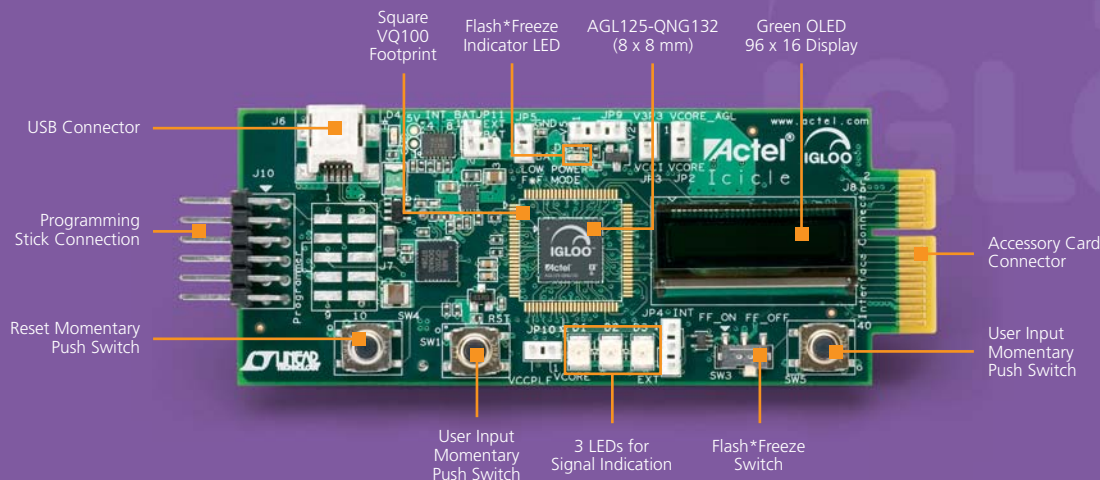


Actel's IGLOO Icicle Kit, based on the 5- μ W IGLOO device, is a low-cost, portable, low-power demonstration platform powered by built-in rechargeable lithium-ion battery, USB cable, or external power. The Icicle evaluation board enables you to measure power consumption (dynamic, static, and Flash*Freeze™) with the core operating at either 1.2 V or 1.5 V. When using it in conjunction with Actel's power analysis tools, you will have a clear picture of application power consumption at each stage in your design. In addition, the Libero® Integrated Design Environment (IDE) tool suite now includes Power-Driven Layout (PDL), which can reduce the power consumption of designs up to 30 percent.

The Icicle evaluation board is the size of a small cell phone, measuring 1.4" x 3.6" and supports an AGL125 IGLOO device in the 8 x 8 mm QN132 package. The evaluation board consumes less than 150 mW and can extend the life of the built-in lithium rechargeable battery over seven times that of the competitive solutions. All components used on the board, such as LEDs (2 mA), resets (μ A range), and oscillator (2-3 mA), are low-power components, including the Green OLED display 96 x 16 (0.8") for quick demos. Also included on the evaluation board is a USB-to-UART interface to allow for Hyperterminal on a PC to communicate with the IGLOO device on the board.

Key Features

- Low-Power AGL125 in Small (8 x 8 mm) Portable QN132 Package
- Built-In Rechargeable Lithium-Ion Battery with Automatic Recharge from USB Interface Also Provides Serial Communications to the PC for Hyperterminal use via a USB-UART chip
- Green OLED 96 x 16 Low-Power Display for Interesting Demos
- Includes a Miniature Low-Cost Programming Stick for Programming the Evaluation Board Via a USB 2.0 High-Speed Connection
- Three Signal LEDs and a Special Flash*Freeze Indicator LED



Icicle Evaluation Board shown at approximately actual size (1.4" x 3.6")

The miniature low-cost programming stick, which comes with the IGLOO Icicle Kit, features all the functionality of the FlashPro3 programmer, in addition to generating a special "activate programming" signal during programming that allows the Icicle evaluation board to switch the V_{CC} value from 1.2 V to 1.5 V automatically during programming.

The Flash*Freeze technology used in IGLOO devices enables entering and exiting an ultra-low power mode that consumes as little as 5 μ W (on AGL030) while retaining SRAM and register data. Flash*Freeze technology simplifies power management through I/O and clock management, with rapid recovery to operation mode. The IGLOO Icicle Kit is ideal for testing the operation of signals, device interactions, and system functions during Flash*Freeze mode.

All-Inclusive, Low-Cost, and Portable

The modular, low-cost, portable, fully RoHS-compliant IGLOO Icicle Kit (AGL-ICICLE-KIT) includes the following:

IGLOO Icicle Evaluation Board with AGL125-QNG132 Device

- Battery powered via included lithium-ion battery and built-in charger from USB cable
- Full current measurement capability of independent I/O banks and V_{CC} for accurate power analysis
- Lowest power 125 k system-gate FPGA in the world
 - Ultra-low power consumption in dynamic, static, and Flash*Freeze modes
 - Low power enables a long battery life for a typical portable device
- Ability to switch V_{CC} from 1.2 V to 1.5 V as needed
- Ultra-small QN132 (8 x 8 mm) device fitted inside a ring of connectors for a VQ100 device. The evaluation board has been designed for use with either package.

- Optional board power connector for an external supply, but none is needed when connected to a USB cable

FlashPro3 Programmer Built into Low-Cost Programming Stick (LCPS)

- Plugs directly into IGLOO Icicle evaluation board. A USB 2.0 high-speed cable plugs into the LCPS for programming of the IGLOO device.

Actel Libero IDE Software DVD

- Gold Edition with free license includes best-in-class third-party tools
- Supports system-on-chip designs, up to 1 M system gates within the IGLOO family, and all features of the IGLOO device included with the IGLOO Icicle evaluation board

Resources

- User's guide and tutorial
- Printed Circuit Board (PCB) layout in Allegro format
- Sample design

For more information regarding **Actel's IGLOO Icicle Kit**, please contact your local **Actel** sales representative.



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