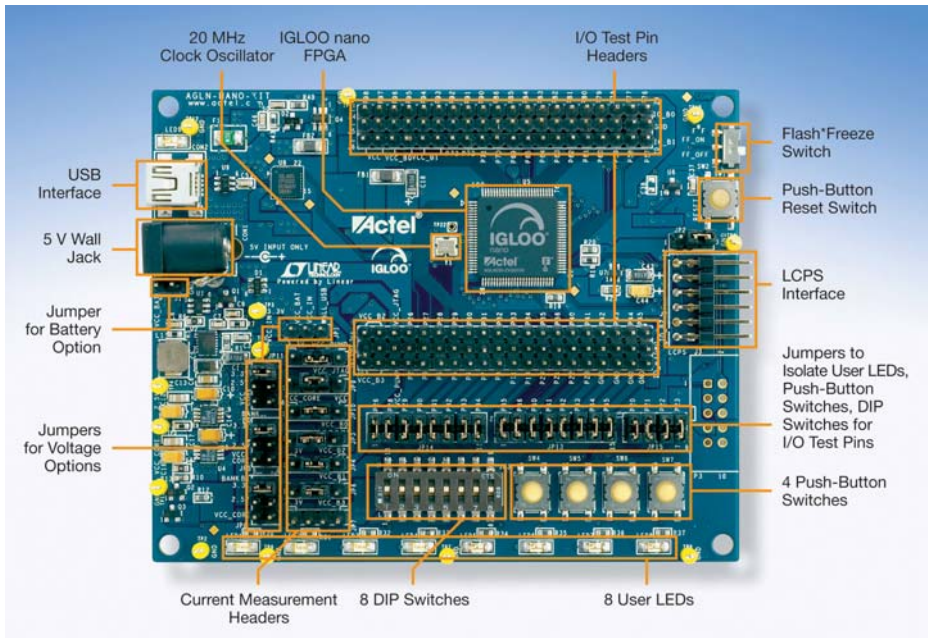


IGLOO nano Starter Kit Quickstart Card

Kit Contents – AGLN-NANO-KIT

Quantity	Description
1	IGLOO [®] nano starter kit board with AGLN250V2-VQG100
1	Low-cost programming stick (LCPS)
2	USB 2.0 A to Mini-B cables

Note: Users are entitled to a free copy of Libero[®] IDE Gold Edition with unlimited renewals.



Jumper Settings

Set up the board with the default jumper settings described in the table below. These settings are required to run the pre-programmed design. It is recommended to confirm the dark shaded voltage selection jumpers. Current measurement jumpers must be connected to permit current to flow. The table order is from top to bottom and left to right on the board, to help you find them.

Jumper	Setting	Comment
JP11	Pin 1-2	Voltage selection for VCC_JTAG (JTAG supply), 3.3 V. Pin 3-4 gives 2.5 V, Pin 5-6 gives VCC_CORE.
JP5	Pin 1-2	Voltage selection for VCC_B0 (Bank 0), selecting 3.3 V. Pin 3-4 gives 2.5 V, Pin 5-6 gives VCC_CORE.
JP8	Pin 1-2	Voltage selection for VCC_B1 (Bank 1), selecting 3.3 V. Pin 3-4 gives 2.5 V, Pin 5-6 gives VCC_CORE.
JP1	Pin 2-3	Main power supply – connect Ic/USB input to VCC_IN
JP3	Pin 2-3	Current measurement header for Bank 0
JP4	Pin 2-3	Current measurement header for VCC_B2 (Bank 2)
JP6	Pin 2-3	Current measurement header for Bank 1
JP7	Pin 2-3	Current measurement header for VCC_B3 (Bank 3)
JP9	Pin 2-3	Current measurement header for JTAG supply
JP10*	Pin 2-3	Current measurement header for VCC (FPGA core supply)
JP12	Pin 2-3	Current measurement header for VCC_PUMP (FPGA charge pump supply)
JP14	All	Dual pair jumpers should be placed on all locations
JP13	All	Dual pair jumpers should be placed on all locations
JP15	All	Dual pair jumpers should be placed on all locations
JP2	Pin 2-3	VCC_CORE voltage (1.2/1.5 V), selecting 1.2 V. Pin 1-2 selects 1.5 V. Jumper is upper right of board.

* Device current can be measured by placing a multimeter between pin2 and pin 3 of JP10 (VCC_CORE). The multimeter must be able to read μ A current range for Flash*Freeze mode.

Running the Pre-Programmed Design

Plug the USB cable into a powered USB hub or a powered PC. Plug the USB cable into the board to power it up. The board is powered from the USB connection and no external supply is required. On power-up, LED 9 indicates power, but the design is in reset. Push SW1 to activate the design and run it as indicated in the table below.

Push Button	LED	DIP Switch
SW1	All 8 LEDs blinking	Don't care
SW2	Right Shift (LED1 to LED8)	Don't care
SW3	Left Shift (LED8 to LED1)	Don't care
SW4	LED on or off depending on DIP switch positions SW5.[1:8]	DIP switches control respective LEDs
SW7 (Reset)	All 8 LEDs will be off	Don't care

Flash*Freeze Mode and Power Measurement

Use the Flash*Freeze Switch (SW6 F*F) to control Flash*Freeze mode. To enable Flash*Freeze mode, slide SW6 toward FF_ON; and to disable Flash*Freeze mode, slide SW6 toward FF_OFF. Flash*Freeze technology enables you to quickly (within 1 μ s) enter and exit Flash*Freeze mode by activating the Flash*Freeze pin while all power supplies are kept at their original values. I/Os, global I/Os, and clocks can still be driven and can be toggling without impact on power consumption; while the device retains all core registers, SRAM information, and I/O states.

Running the Flash*Freeze Demo

Press SW2 or SW3 to run the LEDs in either Right Shift or Left Shift mode. Use SW6 to activate Flash*Freeze mode. The FPGA will appear to be powered off and the LEDs will be off. When Flash*Freeze is released, the sequence will restart from the same position, showing that register and I/O state are retained.

USB-UART Testing

For details on setting up and using the included UART, refer to the *IGLOO nano Starter Kit User's Guide*.

Switches and LEDs

All switches and LEDs can be disconnected from the FPGA by removing the jumpers installed on JP15 for the four push-button switches SW[1:4], JP14 for DIP switches SW5[1:8], and JP13 for LED[1:8].

DIP switches SW5[1:8] must all be set to the closed ON setting; this is the uppermost position of the switch when the board is viewed with Actel logo upright.

Software and Licensing

Download and install the latest release of Libero IDE from the Actel website and register for your free Gold license. Note that Libero IDE v8.4 SP2 or later is required to target AGLN250V2-VQG100.

Software releases: www.actel.com/download/software/libero

Documentation Resources

For further kit information, including user's guide, tutorial, and full design examples, refer to the IGLOO nano Starter Kit page:

www.actel.com/products/hardware/devkits_boards/igloonano_starter.aspx

Technical Support and Contacts

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