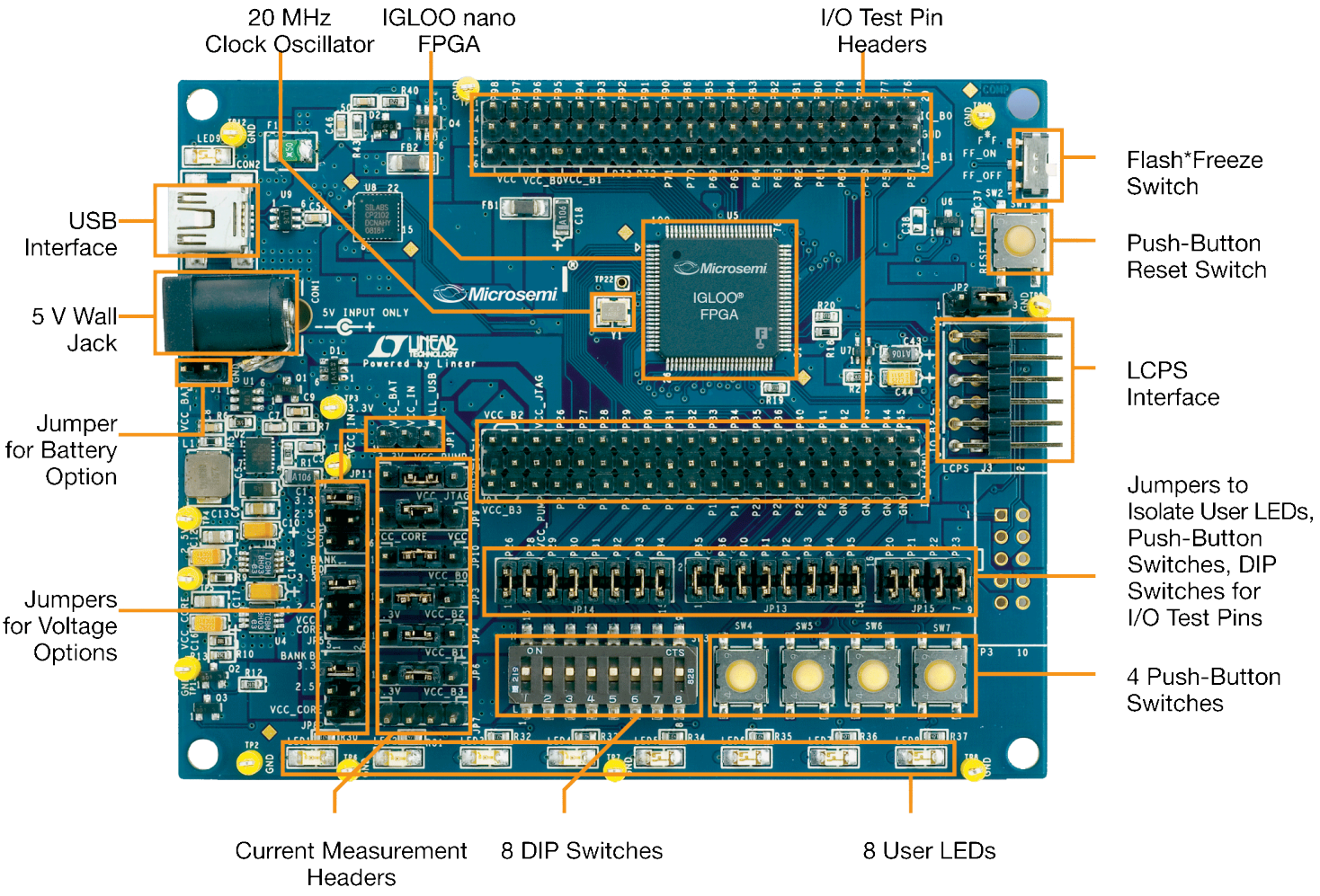
IGLOO® nano Starter Kit Quickstart Card

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
1	Quickstart card



Jumper Settings

Set up the board with the default jumper settings listed in the following table. 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 the flow of current. The table order is from top to bottom and left to right on the board.

Jumper	Pin	Comment
JP11	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	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	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	2-3	Main power supply—connect Ic/USB input to VCC_IN.
JP3	2-3	Current measurement header for Bank 0.
JP4	2-3	Current measurement header for VCC_B2 (Bank 2).
JP6	2-3	Current measurement header for Bank 1.
JP7	2-3	Current measurement header for VCC_B3 (Bank 3).
JP9	2-3	Current measurement header for JTAG supply.
JP10*	2-3	Current measurement header for VCC (FPGA core supply).
JP12	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	2-3	VCC_CORE voltage (1.2 V/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 Pin 2 and Pin 3 of JP10 (VCC_CORE). The multimeter must be able to read µA current range for Flash*Freeze mode.

Running the Pre-Programmed Design

To power up the board, connect one end of the USB cable into a powered USB hub or a running PC, and the other end to the board. 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 following table.

Jumper	Setting	Comment
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 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 µs) 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. See Documentation Resources for more information about Flash*Freeze mode.

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 appears to be powered off and the LEDs are off. When Flash*Freeze is released, the sequence restarts 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, see Documentation Resources.

Switches and LEDs

All switches and LEDs are 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.

Software and Licensing

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Documentation Resources

For more information about the IGLOO nano Starter Kit, including user's guides, tutorials, and design examples, see the documentation at http://www.microsemi.com/soc/products/hardware/devkits_boards/igloonano_starter.aspx

Support

Technical support is available online at www.microsemi.com/soc/support and by email at soc_tech@microsemi.com

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