



CON_2x2

Interconnect Daughter Board



Part of the Confirma™ ASIC/ASSP Verification Platform

CON_2x2 adds a bus that connects 4 adjacent connectors. By removing 0-ohm resistors the bus can be split in two diagonal buses. The primary use is for adding diagonal connections between FPGAs on the HAPS board, or for creating a global 4-FPGA bus. It's typically placed on the 4 middle connectors on HAPS.

Features

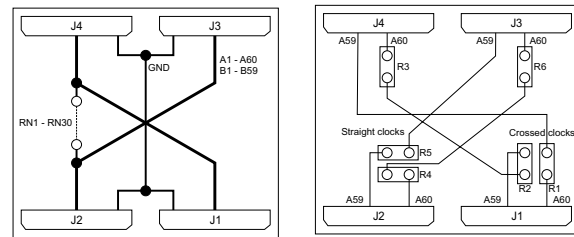
- Form factor: 2x2
(occupies four daughter board connectors)
- Creates a bus across 4 adjacent connectors
- 0-ohm resistors can be dismantled to create two diagonal busses of anywhere between 1 and 119 signals
- The dedicated clock pins are individually detachable from the other connectors
- Connects GND in all four connectors
- VCCO (B60) in the four connectors are separated (not connected together)
- "Top side" connectors allows other daughter boards to share the bus with the FPGAs

Clocks

The 2 wires connecting the dedicated clock pins can be cut close by the respective clock pins by removing 0-ohm resistors. This minimizes reflections on the clock lines if additional I/O is attached to the top side connectors on the CON board, and also allows four independent clock inputs

to the FPGAs. The clock lines of each diagonal bus can be configured to run straight (A60 in upper connector to A60 in lower connector and likewise for A59) or to be crossed (A60 in upper connector connected to A59 in the lower connector and vice versa). Crossing clocks enables the connected FPGAs to have separate input clocks. Straight clocks send the same signal to both FPGA clock inputs. The configuration is done by soldering 0-ohm resistors on the board. Crossed clocks is the default configuration at delivery.

Block Schematic



Physical features

The board has connectors mounted on top of the board as well, in parallel with the normal daughter board connectors, allowing other daughter boards to be mounted on top of the CON_2x2 board. This allows the creation of a "bus" where two or four FPGAs can share common subsystems such as RAM or I/O boards.



Synplicity, Inc.
600 West California Avenue
Sunnyvale, CA 94086 USA

Phone: (U.S.) +1 408 215-6000
Fax: (U.S.) +1 408 222-0263
www.synplicity.com

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