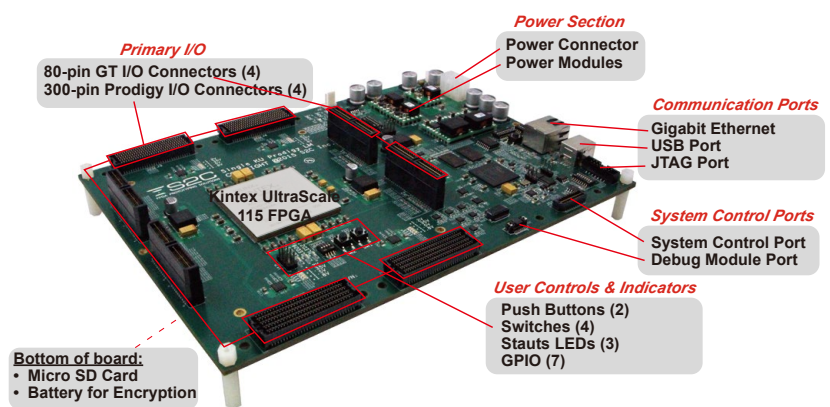


Single KU115 Prodigy™ Logic Module

The Single KU115 Prodigy Logic Module, based on Xilinx's Kintex UltraScale XCKU115 FPGA, is the ideal solution for today's consumer-based Internet of Things (IoT) designs and other small to medium-sized SoCs. Prodigy KU is well-suited for calculation-intensive applications with 5,520 DSP slices, the most of any other solution on the market. The system has 656 general purpose I/Os and 48 GTH transceivers on 8 high-speed connectors enabling high-speed communications. This low cost, all-purpose, stand-alone prototyping system is integrated with S2C's market-leading, vast library of daughter cards to quickly build prototype targets.

Highlights

- Ideal for IoT designs and other small to medium sized SoCs
- Low cost parallel system integration and software development
- 48 Gigabit Transceivers for high-speed communications
- Largest DSP resources on a single FPGA well-suited for calculation intensive applications



Features

Large Capacity & Scalability

- 1.45M System Logic Cells
- 75.9 Mb of FPGA internal memory
- 5,520 DSP Slices
- Multiple Logic Modules can be conveniently connected together to expand capacity through the use of interconnection modules or cables
- Up to 16 Single KU Logic Modules can be configured in a Cloud Cube

High Reliability

- Screw-lock design to high-speed I/O connectors
- Self-Tests - Isolate design issues from board issues conveniently with a software GUI
- Monitoring of on-board voltage, current, and temperature with a software GUI
- Automatic shut-down upon detection of over-current, over-voltage, or over-temperatures

High Performance

- Equal trace length for I/Os from same I/O connector
- Up to 80W of power for an FPGA
- 48 Gigabit Transceivers can run at 12.5Gbps

Flexible & Powerful I/Os

- 576 high-performance I/O pins and 16 Gigabit transceivers through 4 Prodigy connectors
- I/O voltage can be adjusted to 1.2V, 1.35V, 1.5V or 1.8V through runtime software in GUI with 4 status LEDs on-board to indicate I/O voltage
- 32 Gigabit transceivers and 48 GPIOs through 4 GT I/O connectors

Features

Advanced Clock Management

Standalone Mode

- 6 global clocks to be selected from
 - 6 programmable clock sources (0.2 ~ 700MHz)
 - 5 pairs of external clocks through MMCX connectors
 - 1 OSC socket
- 3 design clock outputs through 3 pairs of MMCX connectors

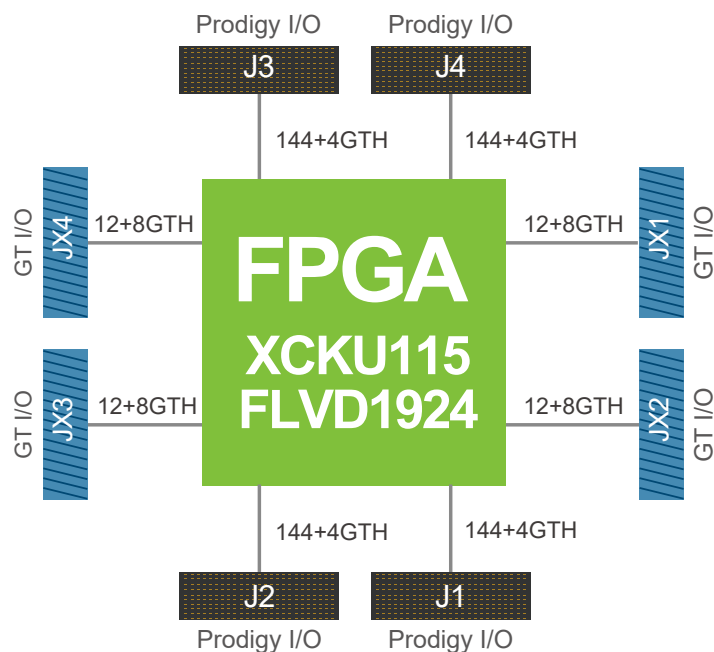
Cloud Cube Mode

- 6 global clocks to be selected from
 - 6 local programmable clock sources (0.2 ~ 700MHz)
 - 6 Cloud Cube global clock sources
- 3 feedback clocks
 - Internally generated clocks can be output to Cloud Cube global clock sources

Ease-of-Use

- Multiple FPGA configuration options through Ethernet port, USB port, JTAG, and micro SD card
- Auto-detection of daughter cards and cables
- Virtual Switches & LEDs for simple tasks such as changing a setting or indicating a condition remotely
- User Test Area - LEDs, Push Buttons, Switches, and Pin Headers for testing and debugging
- On-board battery charging circuit makes FPGA bin file encryption easy
- Optional ProtoBridge™ AXI software to co-model with software/simulation models at transaction-level
- Optional S2C design implementation & debug software
- Compatible with S2C's off-the-shelf pre-tested daughter cards

I/O Architecture



Single KU115 Prodigy Logic Module I/O Architecture