VeriTiger®-QE4000T

VeriTiger®-QE4000T is the most deployed prototyping system from HyperSilicon, using Xilinx Virtex UltraScale XCVU440 FPGA, which is the industry's only high-end FPGA at the 20nm process node. VeriTiger-QE4000T delivers high performance, fast running speed and flexible scalability to accelerate software development, system verification and validation. Through the Protowizard® software to manage prototyping runtime resource and Semu® software to deliver highest debug productivity, VeriTiger-QE4000T can dramatically reduce the time-to-tapeout (TTT) pressure of digital IC design.

Hardware

FPGA Information

- 4 Xilinx Virtex UltraScale XCVU440 FPGAs
- 104 Million Estimated ASIC Gates
- 22164K System Logic Cells
- 354.4Mb Total Block RAM
- 11520 DSP Slices

Clock Resources

- 40 Programmable Differential Clocks
- 4 clock at 20MHz , 4 clock at 27MHz
- 32 QTH Differential Clock Inputs, 32 QTH Differential Clock Outputs
- 8 Programmable Differential Clock Outputs on Front Panel
- 8 Dedicated Switchable MGT Clocks
- 4 Multi-FPGA Shared and Global Programmable Differential ZCLK Clocks
- 8 Global Programmable and Direct Connect-to FPGA Differential Clocks Offered By 8 Pairs of MMCX Connectors

Connector Resources

- 16 HSPI2-MGT Standard Connectors, Offering 128 Lanes GTH Channel
- 4 QSFP Interfaces, Offering 16 Lanes GTH Channel
- 32 HSPI2-DQS Connectors
- 8 HSPI2-CAC Connectors
- 40 HSPI2-LVDS Connectors, Offering 952 LVDS Differential Amplifiers
- 4112 High-performance I/Os in total in HSPI2 Connectors
- 8 QTH-MGT Connectors, Offering 16 Lanes GTH Channel and 96 Single-ended I/Os
- 4 DDR4 SO-DIMM on top panel, supporting ECC, providing up to 64GB of memory, and running at 2,133Mbps most
- 4 DDR3 SO-DIMM on top panel, providing up to 64GB of memory, and running at 1,866Mbps most
- 16 Independent Buttons, 8 Four-digit DIP Switches, 32 User-defined LED Lights

Platform Parameters

- Dimensions: L447mm, W679mm, H98mm
- Weight: 14 Kg
- Max Power Consumption: 600W

Software

System Monitoring

- ▣ Monitor Voltage and Current
- ▣ Monitor System Running States
- ▣ Monitor FPGA Temperature
- ▣ Monitor Daughter Cards States
- ▣ Auto Power Off on Overvoltage or Overcurrent
- ▣ Auto Fan Speed Adjustment and Support Mute Mode

Support Multiple Loading Modes

- ▣ USB-JTAG Mode
- ▣ USB-Selected Map Mode
- ▣ Ethernet-JTAG Mode
- ▣ Ethernet-Selected Map Mode
- ▣ SDCard Configuration

Deep Debug

- ▣ Support Virtual Pins for Debug Signal Capturing
- ▣ Support the Reset of the Daughter Cards
- ▣ Support Deep Debug, Waveform Trigger and Display
- ▣ Support EDIF Partition and System-lever Timing Analysis
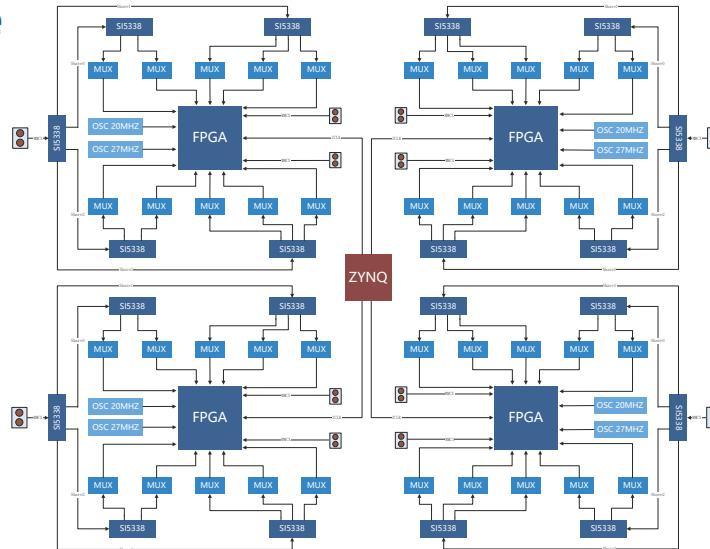- ▣ Semu® Software to Deliver Highest Debug Productivity

Resources Management

- ▣ ProtoWizard® software for Multi-design and Multi-user
- ▣ Support Multi-VeriTiger-V19P Systems Management
- ▣ Administrator Permission
- ▣ Support Suit and Communication Encryption
- ▣ Support Online Firmware Update
- ▣ Support Hardware Self-test
- ▣ HyperDman Software for Daughter Cards Management

Clock Architecture

I/O Architecture