S2C FPGA PROTOTYPING SOLUTIONS

Overview

- Very impressed with the stability of S2C's rapid SoC prototyping solutions.

- Shortened development time with S2C's rapid FPGA-based prototyping system.

- S2C's experienced support team was very helpful.

Within S2C's rapid SoC prototyping solutions, HuayaMicro saved time in developing and debugging their SoC designs. Features like scalability, reuse and flexibility let HuayaMicro quickly port the design into the FPGA prototype and focus on debugging their designs. Using S2C's FPGA-based prototyping system enabled HuayaMicro to successfully get their product to market in a shorter time than for previous designs.

Challenge

HuayaMicro's focus is on LCD TV, STB, Portable TV and Multimedian Decoder area, which are for the rapidly changing consumer market. "We had never designed FPGA boards for hardware validation, as our expertise is in SoC design. We were concerned that we would waste a lot of time designing and debugging our own FPGA prototyping system. A bigger concern was if the design didn't work, was the problem caused by the RTL design or by the FPGA prototype board itself." Said Gong Zhengjun, R&D manager of HuayaMicro. "Also the stability is a challenge to us, since most of the components of our

Huaya Microelectronics, Inc.

Established in 2001, Huaya Microelectronics, Inc. (HuayaMicro) is a world-class SoC IC provider of Digital TV and Video Processing Solutions. Headquartered in Shanghai, China, HuayaMicro also has branch offices in Nanjing , Shenzhen , Taiwan and San Jose , USA with about 170 employees worldwide. With abundant industry experiences, innovative technologies and proactive business development in management, R&D and Sales & Marketing, HuayaMicro teams are experts from USA , Taiwan and China.

Because of emphasis on the protection of its Intellectual Property, the company already have over 10 granted IPRs both in USA and China and is continuously applying for new IPRs. The company's chips are used in TV Boxes, Portable Displays (Portable DVD players and Car TV/Monitors) and LCD TVs. The company has shipped accumulative 10 million chips through their customers' channels, like Gadmei, Changhong, Skyworth, Haier, and Xoceco to worldwide markets.

With the company's outstanding performance, the company ranked in 100 Private Companies Asia 2005 by Red Herring and Technology Fast 50 China 2005 and 2006 by Deloitte. Such awards are all contributed by each member in HuayaMicro family. The company's gol is to be a world-class SoC IC design company in Digital TV and Audio / Video Processing fields.

"We use S2C Dual Xilinx XC5VLX330 Prodigy LM and Dual Altera EP4SE820 Prodigy LM FPGA platforms today. We save a lot of time in developing and debugging the FPGA board. S2C's support and quick response make the porting more smoothly and quickly."

Said Gong Zhengjun.

designed FPGA boards would besoldered by us. Assuring that these boards are manufactured correctly is a big challenge. To avoid these risks, we decide to purchase commercially available FPGA prototyping products. When we evaluate potential FPGA prototyping suppliers, S2C's solutions quickly stood out with its high-performance, flexibility, stability and support."

Solution

"We use S2C Dual Xilinx XC5VLX330 Prodigy LM and Dual Altera EP4SE820 TAI LM FPGA platforms today. We save a lot of time in developing and debugging the FPGA board. In the past, we only put parts of the design into the FPGA. Now, the high capacity enables us to put in much more logic for validation. When porting such large designs into the FPGA prototype, we met some problems, especially with the Dual LX330 Prodigy LM and the Dual 820 TAI LM. These were new platforms and new software flows. S2C's support and quick response made the porting more smoothly and quickly." Said Gong Zhengjun.

"We are seeing tremendous benefits. We can eliminate bugs before tapeout using FPGA prototyping and we can debug software in the FPGA platform before receiving the final silicon. This not only help improve the silicon success rate, but also help us to optimize the software/firmware. Ultimately, we shorten product time to market, maybe by several months in a project." Said Gong Zhengjun.

Results

"Today's technology continues to change and evolve and design complexity is growing rapidly. We are pleased to partner with S2C. By using their rapid SoC prototyping solutions, HuayaMicro can reliably build a TV boxes SoC prototype in few days rather than weeks or months." Said Gong Zhengjun.

"It's commendable that S2C's continuous improvement on rapid SoC prototyping. We had mentioned to S2C that putting a PROM on FPGA boards instead of using daughter board (System ACE board with Dual V5 LX330) would be convenient for us. Now, we see that we can use S2C's new capability of one SD card socket in the Altera S4 and Xilinx V6 Prodigy LMs to store up to four design files once. We are looking forward to building a long-term cooperation with S2C and to utilize the Xilinx V7 Prodigy LM in the future."

S2C

www.s2cinc.com