

Synopsys and Global Unichip

GUC Meets Aggressive Time-to-Market Deadlines for Multiple Mobile Multimedia SoCs using DesignWare IP



Faced with an aggressive time-to-market schedule, Synopsys' DesignWare IP helped us achieve an enviable track record on multiple projects. Leveraging Synopsys' DesignWare IP is a predictable path we can trust."

Nick Tsai

Senior Director of Design Service Division, Global Unichip Corp.

Business

Global Unichip Corporation (GUC) is a leading flexible ASIC company based in Taiwan that delivers high-quality silicon success to its customers. GUC provides robust and flexible ASIC services to meet their customers' unique business and technology requirements.

Challenges

- ▶ Meet end-customer's aggressive 9 month time-to-market demands
- ▶ Acquire silicon-proven USB, PCI Express and mobile storage IP
- ▶ Reduce integration risk for complex design

DesignWare IP Solution

- ▶ USB 2.0 OTG Controller and USB 2.0 nanoPHY
- ▶ PCI Express 1.1 PHY
- ▶ Mobile Storage Host Controller

Benefits

- ▶ Acquired USB and PCI Express IP that met low power and small area SoC requirements
- ▶ Achieved time-to-market window on multiple SoC customer products
- ▶ Received online training and technical support, which helped meet the tight project schedule

Overview

GUC leverages its in-house capabilities and partnerships with TSMC and other design value chain leaders to provide its customers a unique flexible ASIC experience.

In collaboration with 3rd party partners, GUC delivers a full spectrum of engineering services that cover product, test, package and reliability engineering. GUC's flexible ASIC model provides on-time delivery and a variety of production services, including probed wafers, packaged parts and tested packaged devices.

Recently, GUC was called upon to develop multiple SoCs in 65 and 40 nanometer process technologies targeting the smart phone and mobile multimedia markets. Engineered as a cost-effective and tightly integrated IC, these high-performance SoCs enabled the end-customer to create compact and power-efficient mobile multimedia systems for the consumer market.



Synopsys' high-quality, silicon-proven DesignWare USB, PCI Express and Mobile Storage IP solutions enabled us to meet our end-customer's aggressive project schedule."

Nick Tsai

Senior Director of Design Service Division, Global Unichip Corp.

Leading DesignWare IP Solution

GUC needed to develop multiple and highly complex SoCs for their end-customer in the most efficient manner. To help meet their aggressive project schedule and allow them to focus their engineering talent on other critical blocks of the chips, GUC set out to find high-quality, silicon-proven USB, PCI Express and Mobile Storage IP from a trusted 3rd party source.

After evaluating several offerings based on aggressive selection criteria, including quality, ability to meet power and area requirements, and a robust feature set, GUC selected Synopsys' DesignWare® USB 2.0 OTG controller, USB 2.0 nanoPHY, PCI Express 1.1 PHY and Mobile Storage host controller. GUC valued the tunability feature of the DesignWare USB 2.0 nanoPHY IP that enabled them to easily conduct post-silicon adjustments. Furthermore, the advanced, built-in diagnostics and ATE test vectors of DesignWare PHY IP for PCI Express enabled them to perform complete, at-speed production testing of their SoC designs.

High-Quality IP and Excellent Support

Implementing high-quality IP from Synopsys lowered GUC's integration risk and allowed them to complete the SoC designs within their end-customer's aggressive project schedule.

"Synopsys' high-quality DesignWare IP solution and exceptional technical support are integral to meeting design requirements."

Nick Tsai

Senior Director of Design Service Division, Global Unichip Corp.

"Synopsys' technical support helped us meet our customer's low power and area requirements and achieve repeatable success."

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