

# Synopsys and NEC Electronics

## Successfully Tape Out Latest EMMA Chip



**“IC Compiler along with Synopsys Professional Services enables a predictable flow that requires fewer iterations for a successful tapeout.”**

*– Masao Hirasawa, General Manager, Digital Consumer LSI Division, NEC Electronics Corporation*

### Overview

NEC Electronics Corporation is a leading provider of semiconductor products encompassing advanced technical solutions for the broadband and communications markets. For their latest generation design, an Enhanced Multimedia Architecture (EMMA) chip, NEC Electronics was under intense pressure to meet an aggressive delivery schedule. Their 90 nm EMMA design consisted of more than 7 million instances with several hundred macros running at multiple speeds. The size of the flat design, combined with their schedule constraints, placed demands on the design team to achieve the highest quality results quickly. To meet their goals with minimal iterations, NEC Electronics chose IC Compiler's comprehensive place and route capabilities and Synopsys Professional Services to collaborate on the design.

### Synopsys Solution

- IC Compiler
- DFT Compiler MAX
- PrimeTime®
- Star-RCXT™
- Physical design services

### Cooperation Benefits

This latest success builds upon three years of collaboration between NEC Electronics and Synopsys consultants in taping out EMMA series digital audio/video products. A team of designers from Synopsys Professional Services worked with the EMMA project team to understand the specific design characteristics and objectives. The joint team was able to optimize the usage of IC Compiler and other Synopsys tools to create a predictable design flow and meet the tight project schedule. As a result, NEC Electronics was able to deliver the latest EMMA series chips on time and on spec.



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Predictable Success

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