

NovaUCD

Technology Transfer Opportunity

Power Composer

OPPORTUNITY:

Power Composer.

Description of Technology:

Low power consumption in DSP processors is a key product differentiator. Designers require accurate and fast power estimation to make optimal design decisions. Current varies considerably in modern DSP processors which support many operational modes and a high degree of instruction parallelism.

Power Composer is a plug-in tool for the standard Texas Instruments Software Development Kit that predicts the power consumption of a DSP processor based on an analysis of the application software. The tool uses a novel method to determine the actual current trace that would be obtained on an oscilloscope attached to a current probe.

Power Composer runs a cycle accurate simulation of the application within the TI SDK, estimates the current consumption of each instruction based on a model and generates current consumption graphs and summary reports.

Value Proposition:

For the TI C5510, Power Composer provides:

- Accuracy of 97% or better in predicting long term current (over 100s of cycles)
- Correlation of 87% or better in predicting short term current (cycle accurate)
- An easy to use, integrated interface.

The current tool for estimating power in the TI SDK is an Excel spreadsheet!.

Market:

Power Composer would be an attractive addition to a commercial software Integrated Development Environment (IDE), whereby it would assist programmers in predicting and reducing power consumption due to execution of programs on processors. This is important for increasing the battery life of any mobile device.

Inventor:

Dr Chris Bleakley, UCD School of Computer Science and Informatics.

Status:

- Optimised initially for the TI C5510.
- Integrated with TI's "Code Composer Studio".

Opportunity Sought:

Licensee: IDE software provider for mobile/portable devices.

Validation Partner: Designers and programmers of mobile/portable devices incorporating DSP processors.

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