

Press Release

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32-bit NeuroMatrix® RISC Core Is Ready for 64-bit Multimedia Extension

Moscow, Russia, June 05, 2000 — Research Center "Module", a leading developer of high-end DSP processor architectures, today announced that NeuroMatrix® RISC Core (NMRC) is available for licensing. The 32/64-bit VLIW RISC Core is a powerful engine, that has been designed for easy integration with 32- or 64-bit multimedia and DSP co-processors. This is very important for those chip designers who are about to move to the high-end 64-bit DSP world to accommodate the extra features and complex requirements of the next-generation designs.

The NMRC has an advanced Harvard architecture with original instruction set. It includes thirty-two 32-bit general purpose registers and reserved fields for fifteen 32- or 64-bit registers for co-processor extension. Two address generators with 16-Gbyte address space enable up to two memory accesses per cycle. That is especially critical for dual RISC/coprocessor architectures. The core is able to perform up to three operations per instruction on a background of a data transfer via dual-channel DMA controller. The NMRC core optimized for Samsung 0.5µm CMOS technology, consumes approx 35K eq. gates and delivers 50 MIPS and 150 MOPS at 50MHz clock rate.

The architecture of NMRC and the efficient work with 64-bit SIMD co-processor has been verified and approved on a variety of system design levels. The first implementation of NMRC was a RISC platform of the well-known 64-bit VLIW/SIMD NeuroMatrix® DSP Core (NMC) and NM6403 DSP processor. The NMC core has been licensed by Fujitsu for MPEG-4 devices and NM6403 DSP became the heart of TrafficMonitor an embedded system designed by RC "Module". The core is the ideal RISC platform for a broad range of SoC designs: image processing, multimedia, DVB, communications and embedded systems.

The NMRC deliverables include both Verilog RTL synthesizable description and optimized Samsung 0.5µm STD80 Verilog netlist, test suite, documentation and strong Software and Hardware Development Kit. The information about NMRC and NMC cores can be found in "Design and Reuse" <http://www.design-reuse.com> web site.

About RC "Module" (<http://www.module.ru>): Research Center "Module" is a leading Moscow-based fabless semiconductor company which designs high-end DSP processor architectures, embedded computers and application software for DSP and artificial neural networks. RC "Module" also provides system and ASIC/SIP design services to a variety of telecommunication and computer-related OEMs manufacturers.

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