Cognovo tapes out software defined baseband chip in 45nm

ECN Europe

Cognovo [1] has successfully taped out a software defined modem (SDM) device in Samsung Foundry's advanced 45nm LP (low power) process. The device – based on Cognovo's latest Modem Compute Engine (MCE) IP core, MCE160 – will enable licensees to develop soft modems in all cellular and wireless standards including WiFi, 2G, 3G, HSPA+, LTE and LTEAdvanced.

Built around Cognovo's Vector Signal Processor (VSP) technology, which was spun out of ARM in 2009, the synthesisable MCE160 core delivers a record 250 GOp/s (Giga Operations per second) processing power. The performance achieved is sufficient to allow user equipment modems to be created in software for many wireless standards, including LTE-Advanced, or for other algorithmically intensive applications such as cellular infrastructure.

A development platform incorporating the baseband device will be available, and will be supported by Cognovo's Soft Modem Integrated Development Environment. The powerful combination of a full-system software development and modelling methodology with real-time hardware for real-world validation allows Cognovo's licensees to complete their Soft Modem development in parallel with the creation of production silicon.

Cognovo's Software Defined Modem Development Kit (SDM-SDK) consists of an optimising compiler, code profiler and a real-time multi-processor design and modelling environment that enables licensees to easily migrate existing hardware centric designs to the flexible Cognovo platform. Since the platform is capable of supporting current and future wireless standards, modem evolution can be rapidly carried out in software.

"The industry has been waiting for a credible approach to SDM for many years and Cognovo has set itself apart from previous attempts by delivering a low power, wireless-optimised architecture," commented Ian Drew, Executive Vice President of Marketing, ARM. "Harnessing this through a multicore system, including ARM Cortex processors and Physical IP, with an integrated tool chain to address design, modelling and validation will make the silicon from Samsung's advanced process an exciting proof point."

"SDM enables fast-track development and validation of the modem application software to be separated from the silicon hardware commitment. Our licensees and their customers are able to reach the market more quickly, and with more certainty," added Gordon Aspin, CEO of Cognovo. "We are already working with companies to exploit our MCE120 product in the 3G LTE market. However, by providing the MCE160 based development platform, together with our SDM

Software Development Kit, we will allow companies to create the first modem prototypes for LTE-A as soon as next year."

Cognovo's SDM platform comprises the Modem Compute Engine (MCE); a licensable processor sub-system available in a number of configurations, the innovative SDM Operating System (SDM-OS) and a fully Integrated Development Environment for Software Defined Modem creation and validation.

SOURCE [2]

Source URL (retrieved on *09/16/2014 - 11:56am*):
http://www.ecnmag.com/blogs/2011/08/cognovo-tapes-out-software-defined-baseband-chip-45nm

Links:
[1] http://www.cognovo.com
[2] http://ecneurope.wordpress.com/2011/08/01/cognovo-tapes-out-software-defined-baseband-chip-in-45nm/