

World's first LTE-Advanced capable Software Defined Baseband chip

Cambridge, UK – 6th December 2011 – Cognovo, the software defined modem licensing business, announces the availability of its Software Defined Baseband development chip (CDC160) for 3G, LTE and LTE-Advanced. The 45nm Low Power device – based on Cognovo's latest Modem Compute Engine core, MCE160 – enables licensees to develop soft modems in all cellular and wireless standards up to and including LTE-Advanced.

The device is supplied mounted within a system-level development platform providing support for rapid development, debug and validation, against reference test equipment such as the R&S series of communications testers, or integration with RF devices for field testing. Cognovo's Software Modem Development Environment enables rapid bring-up of new modems.

Available to OEMs and semiconductor vendors, the development platform allows early implementations of LTE-Advanced user terminals, even as the standards are being finalised. As the next generation 4G wireless broadband standard defined in 3GPP, LTE-Advanced is capable of supporting data rates in excess of 1Gb/s, or three times the performance of the 3.9G systems rolling out today

Cognovo's unique soft modem approach utilises a cluster of high performance Vector processors programmed in high level C code, together with a novel control and scheduling system. Because the generic hardware is configured by software alone, the hardware can be finalised before the software, and the same chips can be used in development and the final product. The CDC160 device can also be used to support development of other modem standards, such as LTE, 3G, or 802.111abg, n, af, ac etc.

Cognovo has instantiated its IP core in a baseband device to provide customers with a fast-track development vehicle and to prove the performance of the IP.

Dr Gordon Aspin, CEO, said "Creating a chip was the logical next step for us, allowing us to showcase the performance of our core IP, and at the same time providing a validation platform for our customers whilst their own chips are under development. The benefits of the soft modem approach are clear: the silicon came back around 5 weeks ago and we have already brought up a Cat4 LTE downlink. The device is dimensioned for future standards supporting in excess of 300 Mb/s. By using this device our customers can develop soft modems, ranging from 2G to beyond 4G, all on the same silicon."

Aspin continued “A key requirement for any modem solution is die size and power consumption and we have worked hard to benchmark our solution against existing approaches. Even though the device can offer up to 250 GOP/s, I am pleased to report that the power consumption is on-par with the best dedicated ASIC designs and the die size is smaller”

Developing new wireless modems in software directly on target silicon allows manufacturers to save cost and time, as well as de-risk the complex modem development process.

Cognovo’s SDM Development Environment allows efficient power / performance implementation of the complex mathematics that underlies advanced wireless modems, and enables the overall system design to be defined in diagrammatic form and compiled directly to run on the hardware. This approach makes the power of the chip available to existing modem development engineers in a form with which they are familiar, ensuring that their design can move smoothly from laboratory development to product launch.

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About Cognovo

Cognovo’s Software Defined Modem (SDM) platform enables manufacturers to create flexible multi-mode devices capable of operating a dynamic mix of cellular, wireless and broadcast standards such as HSPA+, LTE, LTE-A, WiFi, WiGig, DVB, DMB. The platform delivers multi-mode products with silicon area and power consumption lower than the hardware designs which exist today and in a fraction of the time. We call this *intelligent wireless*.

The Cognovo SDM platform comprises the Modem Compute Engine (MCE), a licensable processor sub-system; the run-time SDM Operating System (SDM-OS) and a fully integrated soft modem development suite. More details are available at: www.cognovo.com/products.
www.cognovo.com

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