Toward 4G Phones: LG Develops World's First LTE Handset Modem Chip

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LG Electronics announced today that it has independently developed the first handset (user equipment) modem chip based on 3GPP Long Term Evolution (LTE)technology standards. The modem chip can theoretically support wireless download speeds of 100Mbps (megabits per second) and upload speeds of 50Mbps. This represents a significant step toward creating a market-ready 4G phone.

The Modem Chip is the most crucial component required to create a viable 4G handset with LTE technology, the leading candidate to become the fourth generation mobile phone technology standard.

LG demonstrated the chip today at its Mobile Communication

Technology Research Lab in Anyang, Korea, achieving wireless download speeds of 60 Mbps and upload speeds of 20 Mbps. The fastest phones currently on the market use HSDPA technology and download at a maximum speed of 7.6 Mbps.

Higher download speeds are becoming more and more important as people are increasingly using their mobile phones to watch movies, listen to music and browse the internet. With LTE technology, users can download a 700 MB movie file in less than one minute at speeds of 100 Mbps. LTE technology would also allow consumers to simultaneously stream four HD movies without any buffering.

For the past three years, LG have been pursuing 3GPP LTE standardization, working to develop and test commercially viable LTE technology with approximately 250 of R&D staffs. The result is a 13 by 13 mm modem chip, perfectly sized for the next generation of slim-yet-powerful handsets. For its demonstration today, LG used a test terminal running Windows Mobile to play back high quality, on-demand video. In addition to this handset modem, LG is also developing the first preliminary LTE-based data card, which can replace the wireless cards currently used in computers.

“Now that LG has developed and tested the first 4G handset modem, a commercially viable LTE handset is on the horizon,” said Dr. Woo Hyun Paik, CTO of LG Electronics. “This latest breakthrough gives us a strong technology advantage that we will use to bolster our industry leadership.”

Most of the major mobile operators are pursuing LTE-based 4G technology. Because it is based on the existing WCDMA technology evolutionary path, 85 percent of WCDMA service-provided carriers will be able to upgrade their networks to LTE with far less cost than building a new network based on a different technology.

According to market research company Strategy Analytics, the global LTE handset market will double from 70 million sales units in 2012 to 150 million sales units by 2013.

Dr. Paik added, "Our successful development of this LTE handset modem signals the start of the 4G mobile communications market. LG will continue to advance this technology and develop further technologies to maintain global leadership."

Mobile phone carriers have now built LTE test networks and are currently working on early stage handsets. The first LTE mobile phones will likely reach the market in 2010.

Provided by LG