

SESSION 4: PLENARY IV - CS TECHNOLOGY'S ROLE IN 4G TERMINALS

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While smartphones such as the Apple iPhone and Motorola's DROID are changing mobile social behavior, they have been successful due to the reliance on mobile broadband data connections via 3G technologies such as WCDMA/HSPA and EVDO Rev. A in providing access to the Internet. 3G technologies today can offer downlink data rates up to 42Mbps. Next generation 4G LTE technology promises downlink data rates up to 100Mbps and beyond.

Compound semiconductors such as GaAs have played a pivotal role in the transmit and receive functions of mobile data modem devices as well as mobile phones. One of the invited papers in this session from TriQuint Semiconductor focuses specifically on the component requirements of 4G LTE terminals including the power amplifier, the LNA receiver as well as switching functions and filters in the front end.

Each generation of wireless technology pushes the envelope for performance in terms of linearity, and RF power output as well as the continuous need for better and better efficiencies. Will GaAs be able to support 4G LTE terminals or will another compound semiconductor technology be required?

The second paper in this session will focus on a complete end to end GaN/SiC HEMT MOCVD process technology solution developed by the Fraunhofer Institute for power devices up to 20GHz.