

High Performance Wireless LANs: Gigabit Speed at 60 GHz and UWB

Prof. Dr.-Ing. Rolf Kraemer
TU-Cottbus and IHP

Wireless LAN applications are demanding more and more speed. Gigabit speed has been demonstrated in some systems recently, but the development does not stop there. The talk will introduce a roadmap and discuss current systems and future systems according to the roadmap's prediction. Moreover it will address a gigabit system working at 60 GHz which has been developed at IHP. Different variants of the system allow a beneficial cooperation with UWB based systems such that multi-frequency multi-standard systems can be supported. The talk will dive into some detail of the RF frontend and the baseband processor and then will discuss future challenges if we want to go to even higher bitrates such as. 100 Gb/s. What frequencies might be suitable? Is today's system architecture and distribution between digital-baseband and analog frontend still that of future ultra high speed systems? The talk tries to give some answers and proposals but it will also raise several questions new to the community.

Prof. Dr. Ing Rolf Kraemer

Institute for computer science, BTU Cottbus

Dept. Head System Design, System Design, IHP

Fon: +49 (335) 5625-345

Fax: +49 (335) 5625-671

Mobile: +49 (171) 8113494

E-Mail: kraemer@ihp-microelectronics.com

Website: <http://www.ihp-microelectronics.com>