



KOLLOQUIUM

Institut für Elektrotechnik, Elektronik und Informationstechnik

Trends in Multi-Mode/Multi-Band Cellular Power Amplifiers and Transmit Architectures

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Cauerstraße 7/9, Hörsaal H5

Diskussionsleitung: Prof. Dr.-Ing. R. Weigel

The paper discusses transmit and power amplifier requirements, solutions and trends for 2G, 2.5G, 3G and beyond cellular systems. It is highlighted that the early systems from view of transmitter requirements allowed relatively simple and very power efficient implementations but showed low datarate capability only. With growing demand for bandwidth efficient use of limited available spectrum, more and more complicated modulation schemes have become part of the standard. As a consequence transmitters and PAs face growing challenges to allow simultaneously highly linear and power efficient operation over increasing dynamic ranges. Potential pieces of solutions for reduction of complexity of RF frontend between transceiver output and antenna will be discussed. It turns out that still considerable innovations in device integration, circuit design and architectures are required to reduce the respective hardware complexity without spoiling achievable performance.