

Notice of dissertation defense

26.10.2018

Integrated digital radio transmitters for 5G high-datarate communications

Title	Integrated Digital-Intensive RF Transmitters Integroidut Digitaal-Intensiiviset RF lähettimet
Content	<p>During the past decade, wireless communication has become an important part of our lives. This has led to a nearly exponential increase in wireless transfer of information, which in turn necessitates new innovations in wireless transmitter design. In order to achieve high datarates, the transmitter must be able to convert digital symbols into analog form with high speed and precision, which is best achieved by pushing the digital domain boundary closer to the antenna.</p> <p>This thesis investigates the use of highly digital-intensive transmitters for 5G basestations, and presents two new circuit concepts that have been validated with integrated circuit prototypes in 28 nm CMOS. In addition to the superior reconfigurability provided by digital circuits, the solutions proposed in this work also aim to provide improved linearity, wider bandwidth and more power-efficient operation than conventional analog approaches.</p>
Field of research	Micro and Nanoelectronic Circuit Design
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