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Electroplated RF-MEMS Switches for Investigation into Smart Surfaces

ABSTRACT - Masterthesis

The mobile networks are growing and spreading in the world. The used technologies must satisfy the constantly changing requirements to the networks functionality and quality. Thus improvement of the already existing standards and creating the new ones is the question of methodology development for network performance investigation. To make such investigations in-house and not to rely on the availability of real-world network infrastructures, it has been decided to deploy a test-bed for performance analysis of the GSM/GPRS data link. To solve this problem, the OpenBTS system with GPRS service has been chosen. It has been built in the Future Internet Anhalt Laboratory (FILA) of the Anhalt University of Applied Sciences.

On the base of the built system the special GSM/GPRS network topology was organized, after which a number of testes with using the network performance measurement tool LTest have been provided. The obtained results, in comparison with real network performance output, have shown that the developed test-bed is not so stable and could not be still compared with the real network measurements. However, at the same time the built GSM/GPRS network works good enough to get the representation of the real network functionality and processes and could be in future improved so that it would be possible to do numerous experiments and an the base of the received data to make research and development of new network technologies and standards.