

Technology and Demonstrator of the Race Project "Mobile Broadband System"

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At present, data rates of mobile communication systems are restricted to a few hundred kbit/s whereas the potential for fixed data links reaches the Gbit/s range due to the use of optical fibres. The European research project "Mobile Broadband System" which is partly sponsored by the European Commission within the RACE programme has the ambitious goal to define the system, develop the technology and build a Demonstrator which shall be able to transmit more than 34 Mbit/s in a mobile environment. This paper describes the development of the required MMIC-technology and the envisaged MBS-Demonstrator which shall be able to transmit a 16 Mbit/s digital video signal from a mobile station to a base station. In addition to the mmwave head which uses MMIC's for most of the functions a great challenge is also the development of an equaliser which shall adapt the filter coefficient to the channel characteristics at up to 50 km/h vehicle speed.

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