MULTI−STANDARD DEVELOPMENT AND MEASURING PLATFORM FOR MIMO−SOFTWARE DEFINED RADIO (ThuAmOR10)

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Abstract :

The demand for ever higher speed mobile communication is one of the main drivers of the telecommunication industry. A promising method capable of achieving high data rates is multiple input – multiple output (MIMO) technology, which has the potential to increase capacity linearly with the number of antennas. The development and measurement platform presented in this paper will simplify the design process of communication systems based on MIMO or smart antenna technology. It is compliant to GSM, UMTS and WLAN standards. In particular the development of software defined radio systems (SDR) is simplified and needs no system changes for supporting each of these standards. Moreover, the system is a flexible testbed for MIMO channel experiments and measurements. It comprises a multi channel receiver for implementation of a SDR and a MIMO channel simulator for evaluation of MIMO or smart antenna algorithms

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