60 GHz SiGe-BiCMOS Radio for OFDM Transmission

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Abstract—This paper reports implementation details of a 60 GHz short range communication system for data rates up to 2 Gbit/s. Based on a MATLAB model the main PHY parameters were derived, and the modules of the analog frontend were specified. For system verification, a demonstrator was developed. The analog RF and IF circuits of the demonstrator are implemented in a 0.25 μm SiGe BiCMOS technology. Measurement results of the analog modules and the complete demonstrator are given. Using OFDM modulation, the maximum data rate transmitted via airlink so far, is 960 Mbit/s.