

“A single chip SiGe receiver front-end at 77 GHz”, pp. 102-109

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Abstract – This paper shows the development and measurement of a single chip receiver front-end at 77 GHz. The front-end consists of a low-noise amplifier (LNA), an active balun, and a direct-downconverting mixer. This design shows the feasibility of silicon-based technologies for millimeter-wave (mm-wave) applications, such as for example automotive radar. After a short introduction, the used silicon-germanium (SiGe) technology is described. Then the circuit design is presented and measurement results are given.