

“Design of a millimeter-wave active integrated antenna using a global analysis”, pp.173-179

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Abstract – An active integrated antenna operating in the millimeter band at 60 GHz is presented in this paper. A patch antenna and a low-noise amplifier are integrated on the same GaAs substrate, so as to be directly matched to each other and to remove all the bulky interconnections between them. The design is based on a methodology making use of circuit and field co-simulation in order to take into account such effects as coupling between distributed parts within the chip. The exposed methodology is experimentally validated through on-wafer measurements as much as radiated field measurements.