

Wireless Ultra-Wide-Band Transmission Prototype ASICs for Low-Power Space and Radiation Applications

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The paper shows the design of microelectronic circuits composed of an oscillator, a modulator, a transmitter and an integrated antenna. Prototype chips were recently fabricated and tested exploiting commercial 130 and 180 nm CMOS technologies. Preliminary results are summarized along with some measurements of the prototypes behavior. In addition, wireless transmission capabilities have been evaluated. The chips fit a large variety of applications like spot radiation monitoring, punctual measurements of radiation in High-Energy Physics experiments or, since they have been characterized as low-power components, readout systems for space applications.

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