Abstracts

Active SIMMWIC-antenna for automotive applications

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An active SIMMWIC-Antenna (Silicon Monolithic Millimeterwave Integrated Circuit) for vehicular technology in the frequency range around 76.5 GHz is presented. This active antenna acts as a transceiver and is well suited for low-cost integrated sensor systems for automotive applications. The monolithic active antenna embedded in a synchronization network requires only 3.2/spl times/2.6 mm/sup 2/ chip size. Using subharmonic injection locking frequency tuning and stabilization is realized. With an injection power of 0 dBm we measured a tuning range of 300 MHz. To our knowledge, this is the first synchronizable monolithic integrated active antenna suited for automotive applications in the frequency band around 76.5 GHz.

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