Abstracts

An Extremely Small 26 GHz Monolithic Image-Rejection Mixer without DC Power Consumption

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This paper describes several design methods for an extremely small 26 GHz monolithic image-rejection mixer. The bias dependence of the drain LO injection mixer is also investigated. Consequently, it was found that there exists an optimum bias point for minimum conversion loss, and the mixer performed well even with zero drain bias voltage. The mixer is fabricated using a uniplanar technique. It consists of drain LO injection mixers, a reduced-size branch-line hybrid, and a Wilkinson divider with a compact layout. The chip measures only 1.6 mm x 1.3 mm, which is the smallest among those reported.

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