Abstracts

A 5.2 GHz variable gain LNA MMIC for adaptive antenna combining

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A variable gain LNA was designed for HIPERLAN I. A noise figure of only 1.7 dB is measured at a gain of 14.5 dB and a power consumption of 9 mW (V/sub DC/=3 V, I/sub DC/=3 mA). Over an amplitude control range of 20 dB, the third order intercept point at the input is higher than -10 dBm, the spurious free dynamic range is higher than 55 dB and noise performance does not effectively degrade. Noise and intermodulation performance of different amplitude control methods as well as the required resolutions for D/A converters are investigated.

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