Abstracts

Ka-band multistage MMIC low-noise amplifier using source inductors with different values for each stage

H. Uchida, S. Takatsu, K. Nakahara, T. Katoh, Y. Itoh, R. Imai, M. Yamamoto and N. Kadowaki. "Ka-band multistage MMIC low-noise amplifier using source inductors with different values for each stage." 1999 Microwave and Guided Wave Letters 9.2 (Feb. 1999 [MGWL]): 71-72.

A Ka-band three-stage monolithic microwave integrated circuit (MMIC) low-noise amplifier using source inductors with different values for each stage has been developed for use in active phased-array receiver modules. The three-stage MMIC low-noise amplifier with 0.15/spl times/120 /spl mu/m/sup 2/ AlGaAs-InGaAs pHEMTs has achieved a noise figure of 1.6 dB, a gain of 22.8 dB, an input return loss of 29 dB, and an output return loss of 24 dB at 28 GHz by optimizing the values of source inductors for each stage. The minimum noise figure was 1.3 dB at 30 GHz.

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