Abstracts

Measurements of the Low-Frequency-Gain Fluctuations of a 30-GHz High-Electron-Mobility-Transistor Cryogenic Amplifier

N.C. Jarosik. "Measurements of the Low-Frequency-Gain Fluctuations of a 30-GHz High-Electron-Mobility-Transistor Cryogenic Amplifier." 1996 Transactions on Microwave Theory and Techniques 44.2 (Feb. 1996 [T-MTT]): 193-197.

Low-frequency-gain fluctuations of a 30-GHz cryogenic HEMT amplifier have been measured with the input of the amplifier connected to a 15-K load. Effects of fluctuations of other components of the test set-up were eliminated by use of a power-power correlation technique. Strong correlation between output power fluctuations of the amplifier and drain current fluctuations of the transistors comprising the amplifier are observed. The existence of these correlations introduces the possibility regressing some of the excess noise from the HEMT amplifier's output using the measured drain currents.

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