Abstracts

On-Wafer Microwave Measurement Setup for Investigations on HEMT's and High T/sub c/ Superconductors at Cryogenic Temperatures Down to 20 K

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In this paper an on-wafer measurement setup for the microwave characterization of HEMT's and high T/sub c/ superconductors at temperatures down to 20 K is presented. Both S-parameter and noise measurements, can be performed in the frequency range from 45 MHz to 40 GHz and 2 GHz to 18 GHz, respectively, using standard calibration techniques and commercial microwave probe tips. Microwave measurements on a pseudomorphic FET and an AIGaAs /GaAs HEMT as well as investigations on a superconducting filter are presented to demonstrate the efficiency of the developed system.

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