

FRONTIERS OF MICROWAVE NOISE MEASUREMENTS AT NBS

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Abstract

The National Bureau of Standards (NBS) is a national technical resource to U. S. industries and government agencies and provides the nation with a foundation for its measurements. NBS performs research to establish basic and reference standards and to develop measurement techniques both to disseminate these standards and in response to technological needs. Microwave and millimeter wave noise standards and measurement techniques that represent the frontiers of noise measurements will be discussed. These include capabilities in the measurement of noise temperature and excess noise ratio, noise figure (or noise factor), and the use of radio stars to measure system gain to system noise temperature for satellite ground stations. Some comments will be included about efforts to develop the stability of various noise sources and the measures for oscillator noise.