

Primary Noise Standards Enable Precise Measurements at 18-325 GHz

Primary noise standards offer ultimate calibration and measurement accuracy at microwave and millimeterwave

Noise Com recently announced the availability of primary noise standards, designed in the same manner as the primary standard at the National

Institute of Science and Technology (NIST). The NBS series covers 18.0 to 325.0 GHz (waveguide sizes WR-42 through WR-3) in thirteen ranges. Accuracy is better than $+0.24/-0.36$ Kelvin at 26.5 GHz.

Primary noise standards allow the most precise measurement of noise temperature, noise figure, antenna effective input noise temperature and SATCOM system performance. The system also allows accurate calibration of noise sources. The Noise Com system uses a waveguide horn of known insertion loss with a blackbody that is embedded in a liquid nitrogen bath.

The system is designed to control nitrogen



The entire system includes the blackbody cavity (center) with appropriate horn, liquid nitrogen reservoir with automatic filling system (right), circulating water bath system (left) and a PC-based controller (not shown).



Primary noise standards from Noise Com offer unmatched accuracy for microwave noise-based measurements.

boil-off and control the temperature of the waveguide horn to ensure that temperature gradients do not degrade system accuracy and repeatability. A precision barometer and precision thermometer are included, along with a PC-based controller that monitors performance and displays the current noise temperature and accuracy.

An optional low loss switch and room-temperature termination are available for noise and radiometer calibration.

Noise Com

Tel: 201-261-8797

Fax: 201-261-8339

E-mail: info@noisecom.com

www.noisecom.com

HFelink 303