Abstracts

A Broad-Band Temperature-Controlled System for the Study of Cellular Bioeffects of Microwaves (Short Papers)

A. Riazi, D.W. Hill, M.J. Hagmann, O.P. Gandhi and J.A. D'Andrea. "A Broad-Band Temperature-Controlled System for the Study of Cellular Bioeffects of Microwaves (Short Papers)." 1982 Transactions on Microwave Theory and Techniques 30.11 (Nov. 1982 [T-MTT]): 1996-1998.

A system for the study of cellular bioeffects in the frequency range of 38 to 48 GHz and 65 to 75 GHz is described. High coupling efficiency (greater than 99 percent) provides a method for determining the energy absorption by the samples. An aqueous test medium was pumped through tapered waveguide sample holders. Temperature differences as low as ± 0.01°C were measured using pairs of thermocouples. Compensatory electrical heating of the control sample holders was employed for reduction of temperature differences.

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