Abstracts

SAR generated by commercial cellular phones-phone modeling, head modeling, and measurements

A. Schiavoni, P. Bertotto, G. Richiardi and P. Bielli. "SAR generated by commercial cellular phones-phone modeling, head modeling, and measurements." 2000 Transactions on Microwave Theory and Techniques 48.11 (Nov. 2000, Part II [T-MTT] (Special Issue on Medical Application and Biological Effects of RF/Microwaves)): 2064-2071.

This paper presents the computation of the specific absorption rate (SAR) generated by cellular phones inside an anatomical model of a head. Four models of commercially available phones have been considered working at 900- and 1800-MHz bands (global system for mobile communication system). The phones have been modeled by using a computer-aided design representation obtained through the reverse engineering technique. Both SAR distributions and SAR averaged values have been computed inside the anatomical model of a head, by using the finite-difference time-domain method. Computations have been experimentally validated through measurements performed inside anthropomorphic phantoms irradiated by a dipole and cellular phones.

❑ Return to main document.