The SAR produced in models of human subjects standing next to a trunk-mounted mobile telephone antenna operating at 835 MHz has been measured by Guy and Chou [1986]. **Table 4** presents the results for a child and a woman standing at a distance of 63 and 43.5 cm, respectively, from the antenna. A maximum SAR of 16.5 mW/kg per watt is measured in the neck region for the child. Also, a maximum SAR of 38 mW/kg per watt occurs in the eye for the woman model. Like the hand-held telephones, the distribution and location of SAR maxima vary with phantom model and distance from the mobile antenna. Nevertheless, at typical distances, the measured SAR from trunk-mounted mobile antennas are low compared to existing RF exposure standards.

Table 4. Measured SAR in phantoms exposed to trunk-mounted mobile telephone antenna normalized to one watt output.

Frequency (MHz)	SAR (mW/kg)	Distance (cm)	Phantom Model	Authors Date
835	39 (Eye) 38 (Stomach) 9.2 (Heart)	43.5	Woman	Guy & Chou [1986]
835	6.8 (Brain) 11.4 (Eye) 16.5 (Neck)	63	Child	Guy & Chou [1986]

Numerical Computation of SAR Distribution

Currently, the biological effects of RF radiation from mobile telephone systems, the induced RF energy inside the head of an user, and the degree to which these low power devices comply with existing safety guidelines are all subjects of continued investigation. In principle, the latter two issues could be approached either experimentally, theoretic-numerically, or by a combination of the two [Michaelson and Lin, 1987]. While progress is being made in both of these areas, to date, an acceptable procedure has yet to emerged. The difficulty arises in part from the complexity of device-operator configurations and methodological limitations of the dosimetric assessment protocols.

Fidelity of modelling and reproducibility of exposure conditions are key issues to be overcome in both experimental and numerical assessments. SAR depends critically on the actual transceiver design and the position of the transceiver with respect to various parts of the operator's body. Aside from simplifications demanded by the approach, which can not truly be representative of actual exposure, the logistics of an experimental assessment become extremely tedious if applied to the compliance and certification process where a large number of measurements may be needed.