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A Report on Non-Ionizing Radiation

Using a Cell Phone in an Elevator

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There are many reasons not to use a cell phone in an elevator. The most obvious would be as a courtesy to other passengers. Another is that a phone has to work harder in a shielded space. It's forced to operate at higher power levels for the signal to get out and reach the nearest tower and that leads to more ambient radiation in the elevator.

What most cell phone users would never consider is that a fellow passenger absorbs some of the radiation that would otherwise bounce back off the walls. It turns out, according to some new calculations from Japan, that a lone user can get a maximum exposure of about 1.6 W/Kg, 80% of the ICNIRP standard (2 W/Kg). But be advised that exposures could exceed the current U.S. FCC standard by a wide margin, under worst-case conditions. (This is a rare —no, unique— example of an American EMF standard being stricter than those in other countries.) The FCC limit is averaged over only 1g of tissue and, as Jim Lin, a member of ICNIRP, has often pointed out, increasing the averaging volume from 1 g to 10 g could triple the allowable radiation exposure (see *MWN,* N/D00, p.3). These new findings appear in the May issue of the *IEEE Transactions on Microwave Theory and Techniques.*

What about the passenger? Here again, the exposure would be just a brief elevator ride. But, if you believe the work from Lund University in Sweden, even those passive, or second-hand, exposures could lead to biological changes. Lund's Leif Salford has long reported that he sees stronger effects in the brain at low, not high, radiation levels. When everyone else is talking about W/Kg, Salford speaks in terms of mW/Kg, exposures that are a thousand times lower. At last month's *5th International EMF Seminar in Hangzhou*, China, Salford explained why he is convinced the microwave effect on the blood-brain barrier is real: "We've consistently seen it over 21 years."

averaging volume, James Lin, ICNIRP, FCC, Leif Salford, China,

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