

New Study: Cell Phones Exceed Safety Limits When Phones Touch the Body

Most cell phones emit radiation that can exceed radiation safety guidelines when held against the body, according to new analyses of French government data published online in IEEE Access, a peer-reviewed open access scientific journal of the Institute of Electrical and Electronics Engineers (IEEE). The [analysis](#) by Professor Om Gandhi examined [data](#) from 450 cell phone models from the French government agency, ANFR—the national radiation assessment bureau—indicating that phones can emit 11 times over the US FCC limit and 3 times over European/ICNIRP limits.

Most cell phones have instructions buried in the manufacturer's manual or operating system to maintain a separation distance between the phone and the body. ANFR [tested](#) radiation absorbed into the body at manufacturers' tested distances of 5 to 25 mm and also in body contact positions at 0m. While most phones were compliant when tested with the manufacturers' separation distance, most phones *violated European and U.S. limits when tested at body contact.*

"The U.S. is far behind much of the industrial world in failing to test and monitor phones in the real world. My analysis confirms that currently marketed cell phones could exceed US FCC limits by as high as 11 times the 2-decade old allowable U.S. limits," stated Gandhi, award-winning Emeritus Professor of the University of Utah and former President of the Bioelectromagnetics Society. "People use and carry cell phones against their bodies. It is not sufficient for manufacturers to simply state that users should keep a distance from the phone."

The paper recommends that cell phone compliance testing be updated to include body contact positions and to take into account the special vulnerability of children and pregnant women. Gandhi called attention for the need to protect children as he has authored [research](#) finding children absorb radiation more deeply into their brains when compared to adults, at times that their brains are rapidly growing. These findings of children's greater exposure have been repeatedly [replicated](#) by scientists worldwide and the International Agency for Research on Cancer [states](#) "the average exposure from use of the same mobile phone is higher by a factor of 2 in a child's brain and higher by a factor of 10 in the bone marrow of the skull."

This paper comes just as the advisory group of the International Agency for Research on Cancer (IARC) of World Health Organization released

new [recommendations](#) to reassess as a “high priority” the cancer risks of radiofrequency (RF) radiation- the wireless radiation from cell phones and other wireless devices. Several [research reviews](#) have concluded that cell phone radiation is a human carcinogen and a new [study](#) involving over 50,000 women and children in four countries linked maternal cell phone use during pregnancy with shorter pregnancy duration and increased risk for preterm birth.

“We call for FDA and FCC to recall phones that do not meet US safety limits, according to the Gandhi analysis and to institute a new program of testing phones at the body. A substantial body of research including the U.S. government’s National Toxicology Program and guidance from the Mayo and Cleveland Clinics confirm harmful effects from this radiation,” stated Dr. Devra Davis MPh, PHD, President of Environmental Health Trust (EHT), a scientific non-profit that evaluates and conducts [research](#). Davis has long held that phones “would be illegal if they were tested in the way they are used” and provided testimony on how the public is unaware of cell phone radiation [manufacturer’s instructions](#) in [2009 Senate hearings](#), calling for real-world testing and monitoring.

In Europe, 13 phone models have been recalled or software updated after Dr. Mark Arazi’s of [Phonegate Alerte](#) pressured the French government to release the ANFR measurement data. “The fact that cell phones exceed federal limits when tested touching the body is a scandal that has been going on for 30 years. It affects billions of cell phone users worldwide and will shake the cell phone industry itself,” stated Dr. Arazi who filed [charges](#) against the Chinese manufacturer Xiaomi for cell phone radiation measurements that violated regulatory levels.

“Parents are unaware that when a child holds a phone or iPad in their lap, or when then their teenager tucks the phone in their pants, that their child absorbs radiation at levels that exceed cell phone radiation limits,” stated Theodora Scarato, Executive Director of EHT. “We contacted the FDA when the French cell phone data were first released three years ago and called on them to take action. The CDC, FDA, and FCC must inform the public about this and take action to ensure protection for all cell phone users, especially children, and teenagers.”

Gandhi, O. P. (2019). [Microwave Emissions From Cell Phones Exceed Safety Limits in Europe and the US When Touching the Body](#). IEEE Access, 7, 47050-47052. doi:10.1109/access.2019.2906017

Om P. Gandhi, Sc.D. is Professor of Electrical Engineering at the University of Utah, Salt Lake City. He is the author or co-author of several book chapters, and over 200 journal articles on electromagnetic dosimetry, microwave tubes, and solid-state devices. He also edited the book, Biological Effects and Medical Applications of Electromagnetic Energy (Prentice-Hall, 1990), and co-edited the book Electromagnetic Biointeraction (Plenum Press, 1989).

Dr. Gandhi was elected a Fellow of the IEEE in 1979, a Life Fellow of the IEEE in 1999, and a Fellow of the American Institute for Medical and Biological Engineering in 1997. He has been Chairman of the Department of Electrical Engineering, University of Utah (1992-1999), President of the Bioelectromagnetics Society (1992-1993), Co-chairman of IEEE SCC 28.IV Subcommittee on the RF Safety Standards (1988-1997), and Chairman of the IEEE Committee on Man and Radiation (COMAR) 1980-1982. He received the d'Arsonval Medal of the Bioelectromagnetics Society for pioneering contributions to the field of bioelectromagnetics in 1995, the Microwave Pioneer Award of the IEEE Microwave Theory and Techniques Society in 2001, and the State of Utah Governor's Medal for Science and Technology in 2002. He is also a Scientific Advisor to EHT.

About Environmental Health Trust

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