



Recent scientific publications relevant to mobile telephony

September 2015

Details

China: Dominant lethal mutation test in male mice exposed to 900 MHz radiofrequency fields, [Zhu et al., *Mutation Research/Genetic Toxicology and Environmental Mutagenesis*](#), Available online 17 July 2015.

'..Overall observations during the 4 weeks of mating indicated that the un-exposed female mice mated to RF-exposed male mice showed no significant differences in the percentage of pregnancies, total implants, live implants and dead implants when compared with those mated with sham-exposed mice...'

India: Power level distributions of radio base station equipment and user devices in a 3G mobile communication network in India and the impact on assessments of realistic RF EMF exposure, [Joshi et al., *IEEE Access*](#), 3(1051-1059), Published: 7 July 2015.

'...The mean, the median, and the 95th percentile RBS output power values were found to be 24%, 21%, and 53%, respectively, of the maximum available power....The mean output power for the voice, data, the voice + data, and the video were found to be around 1%, 3%, 2%, and 4%, respectively, of the maximum available power for the 3G user devices...'

Japan: Dielectric property measurement of ocular tissues up to 110 GHz using 1 mm coaxial sensor, [Sasaki et al., *Physics in Medicine and Biology*](#), 60(16):6273, 21 August 2015.

'...Novel data of the dielectric properties of several ocular tissues are presented and compared with data from the de facto database...'

Poland: Difficulties in applying numerical simulations to an evaluation of occupational hazards caused by electromagnetic fields, [Zradziński, *International Journal of Occupational Safety and Ergonomics*](#), 21(2):213-220, 2015/04/03.

'...workers' body models (posture, dimensions, shape and grounding conditions), working environment models (objects most influencing electromagnetic field distribution) and an analysis of parameters for which exposure limitations are specified in international guidelines and standards...'

Poland: Examination of virtual phantoms with respect to their possible use in assessing compliance with the electromagnetic field exposure limits specified by Directive 2013/35/EU, [Zradziński, *International Journal of Occupational Medicine and Environmental Health*](#), 28(5):781-792, 2015.

'...various other factors should be also considered, e.g., the relationship between phantom posture and a realistic exposure situation (flexible phantoms use), limited resolution preventing reliable evaluation of physical estimators of exposure, or a non-realistic area of phantom surface in contact with the ground...'

South Korea: Automatic RF input power level control methodology for SAR measurement validation, [Kim et al., *Journal of Electromagnetic Engineering and Science*](#), 15(3):181-184, July 2015.

'...Automatic Input Power Level Control System (AIPLC), which controls the equipment by a program that maintains a stable input power level, is suggested

in this paper. The power drift is reduced to less than ± 1.16 dB by AIPLC, which reduces the standard uncertainty of power drift to 0.67%.'

South Korea: Effects of 915 MHz radiofrequency identification electromagnetic field exposure on neuronal precursor cells in the dentate gyrus of adult rat brains, [Kim et al., Journal of Electromagnetic Engineering and Science](#), 15(3):173-180, July 2015.

'...No significant morphological changes in DCX+ or NeuN+ cells in the DG of RFID-exposed rats were observed. These results suggest that RFID exposure induces no significant change in DCX+ neuronal precursor or NeuN+ neuronal cells in DG of rats.'

South Korea: The effect of sub-chronic whole-body exposure to a 1,950 MHz electromagnetic field on the hippocampus in the mouse brain, [Son et al., Journal of Electromagnetic Engineering and Science](#), 15(3):151-157, July 2015.

'...In the behavioural tests, RF-EMF did not alter the physical activity or long-term memory of mice. Moreover, no alteration was found in the neuronal and glial cells in the hippocampus by RF-EMFs...'

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