Recent scientific publications relevant to mobile telephony

August 2015

Details

Belgium: Whole-Body Averaged Specific Absorption Rate Estimation Using a Personal, Distributed Exposimeter, Thielens et al., *IEEE Antennas and Wireless Propagation Letters*, 14(1534-1537), 31 July 2015

> *'...A body area network (BAN) is used to construct a personal, distributed exposimeter (PDE), which can measure the whole-body averaged specific absorption rate (SAR) in real life, together with the incident power density...'*

Brazil: Effects of chronic exposure to 950 MHz ultra-high-frequency electromagnetic radiation on reactive oxygen species metabolism in the right and left cerebral cortex of young rats of different ages, Maraschin et al., *International Journal of Radiation Biology*, Posted online on August 14, 2015.

> *'...Our results indicate that there is no genotoxicity and oxidative stress in neonates and 6 days rats. However, the RCC had the highest concentration of CP that do not seem to be a consequence of oxidative stress...'*

Palestine: Public Exposure from Indoor Radiofrequency Radiation in the City of Hebron, West Bank-Palestine, Lahham et al., *Health Physics*, 109(2):117-121, August 2015.

> *'...Relative contributions from different sources to the total exposure in terms of exposure quotient were evaluated and found to be 46% from FM radio, 26% from GSM900, 15% from DECT phones, 9% from WLAN, 3% from unknown sources, and 1% from TV broadcasting. RF sources located outdoors contribute about 73% to the population exposure indoors.'*

Serbia: Statistical Analysis of Electromagnetic Radiation Measurements in the Vicinity of GSM/UMTS Base Stations Installed on Buildings in Serbia, Koprivica et al., *Radiation Protection Dosimetry*, published online July 30, 2015

> *'...Extensive EM field strength measurements were carried out for 664 base station locations, from which 276 locations refer to the case of base stations with antenna system installed on buildings...'*

Sweden: Antenna Current Optimization for Lossy Media with Near-Field Constraints, Gustafsson et al., *IEEE Antennas and Wireless Propagation Letters*, 14(1538-1541), 31 July 2015.

> *'...Results suggest that many fundamental antenna problems involving near-field constraints and lossy background media can be analyzed using convex optimization.'*

Taiwan: Electric field effects due to radiation from cellular phone and roof transmitter in an ambulance, Chen et al., *Journal of the Chinese Institute of Engineers*, 38(6):760-769, 18 August 2015.

'*...Interference threshold separation distance of 30 cm is proposed for evaluating the interaction between cellular phones and medical devices inside an ambulance. Simulation results of interior electric fields emitted from a transmitter on an ambulance roof made of metallic material are found not to exceed the 3 V/m standard immunity level. However, electric field strengths inside the ambulance with a roof made of non-metallic material are found to exceed the 3 V/m standard immunity level.'*

The Netherlands: Using software-modified smartphones to validate self-reported mobile phone use in young people: A pilot study, Goedhart et al., *Bioelectromagnetics*, Published online: 30 July 2015.

'*...Participants on average underestimated the number of calls they made, while they overestimated total call duration. Participants held the phone for about 90% of total call time near the head, mainly on the side of the head they reported as dominant...'*

Turkey: 2.1 GHz electromagnetic field does not change contractility and intracellular Ca2+ transients but decreases ß-adrenergic responsiveness through nitric oxide signaling in rat ventricular myocytes, Olgar et al., *International Journal of Radiation Biology*, Posted online on July 1, 2015.

'*...Long-term exposure to 2.1 GHz EMF decreases ß-AR responsiveness of ventricular myocytes through NO signaling.'*
