

Survey on electric and magnetic fields hp and Lenovo laptops in the vicinity of internet-connected smart phones

Article · June 2016 with 7 Reads

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Abstract

Nowadays exposure to electromagnetic fields, emitted from electronic devices, especially laptops and mobile phones is inevitable due to their portability. Exposure to electromagnetic fields causes harmful effects on human health. Today, most people are exposed to these fields while using their mobiles or laptops. In this cross-sectional study, the electric and magnetic fields of HP and Lenovo laptops are measured in the vicinity of 3G internet-connected Samsung smart phones at a distance of 30 and 45 cm in front of laptops. The mean electric field in the vicinity of the smartphone at a distance of 30 cm for HP and Lenovo laptops was 0.11v/m and 0.06 v/m and the mean magnetic field was 1.69 mG and 1.43 mG, respectively. The domain of electric and magnetic fields were ND-0.17 v/m and 0.3-2.4 mG, respectively. The mean electric field for HP and Lenovo laptops in the vicinity of the smartphone, at a distance of 45 cm, was 0.10 v/m and 0.06 v/m, respectively and the mean magnetic field was 1.32 mG and 1.16 mG. The mean of SAR, for HP and Lenovo laptops, in the vicinity of mobile phones, at a distance of 30 cm was 19×10^{-6} w/kg and 5×10^{-6} w/kg and at a distance of 45 cm, was 17×10^{-6} w/kg and 5×10^{-6} w/kg. The Electric and magnetic field as well as SAR were less than standard. HP laptops magnetic field was significantly more than the Lenovo laptops. Unlike Lenovo laptops, electric and magnetic fields of HP laptops, in the vicinity of mobile phones, was significantly higher than the absence of mobile phones. Putting the internet-connected smart phones in the vicinity of HP laptops (significantly) and Lenovo laptops (insignificantly) increases the of electric and magnetic fields. © 2016, International Journal of Pharmacy and Technology. All rights reserved.

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https://www.researchgate.net/publication/306213146_Survey_on_electric_and_magnetic_fields_hp_and_Lenovo_laptops_in_the_vicinity_of_internet-connected_smart_phones [accessed Jun 7, 2017].