



PLANNING, COMMUNITY AND EMF FACT SHEET SERIES

HEALTH SUMMARY

Information on the health issues related to radio base stations.

Radio base stations and handsets use electromagnetic fields (EMFs) to transfer information and make mobile phone communications possible. EMFs are used for television and radio transmissions, by the police, fire and ambulance services, by taxi firms and public utilities. EMFs are also used for a wide range of personal and commercial equipment from electronic car keys, WiFi equipment and baby monitoring devices to shop security tag systems. They are also produced by household electrical appliances like the fridges, vacuum cleaners or electric shavers.

Mobile phones and devices are new but the technology is not and research has been going on in this area for almost 75 years. After a thorough review of the available scientific findings, the World Health Organisation reported: *"To date, the only health effect from RF fields identified in scientific reviews has been related to an increase in body temperature (> 1 °C) from exposure at very high field intensity found only in certain industrial facilities, such as RF heaters. The levels of RF exposure from base stations and wireless networks are so low that the temperature increases are insignificant and do not affect human health"* [Source: World Health Organisation, Fact Sheet 304, Base stations and wireless technologies, 2006]. In addition, the WHO notes that *"Based on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields"*. <http://www.who.int/peh-emf/about/WhatIsEMF/en/index1.html>

Radio base stations are designed to comply with the stringent, precautionary public exposure guidelines set out by ICNIRP (International Commission on Non-Ionizing Radiation Protection). These guidelines have been developed following a thorough review of the science including both thermal and non-thermal effects. UK radio base station installations have been surveyed by independent bodies and found to be hundreds and sometimes thousands of times below these guidelines. When ICNIRP reviewed their guidelines in 2009 they concluded *"ICNIRP reconfirms the 1998 basic restrictions in the frequency range 100 kHz–300 GHz until further notice."* [Source: ICNIRP statement on the "Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz)"].

The Advisory Group on Non-ionising Radiation (AGNIR) summarised that *“although a substantial amount of research has been conducted in this area, there is no convincing evidence that RF field exposure below guideline levels causes health effects in adults or children.”* “Health Effects from Radiofrequency Electromagnetic Fields – RCE 20”, 2012

In addition, the report “Recent Research on EMF and Health Risk - Tenth report from SSM’s Scientific Council on Electromagnetic Fields, 2015” notes that *“new studies on adult and childhood cancer with improved exposure assessment do not indicate any health risks for the general public related to exposure from radiofrequency electromagnetic fields from far-field sources, such as base stations and radio and TV transmitters”*

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