

CORNERSTONE COMMUNITY INFORMATION SHEET

Health Summary

Radio base stations and handsets use electromagnetic fields (EMFs) to transfer information and make communication possible with mobile phones and devices. 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.

Public Health England (PHE) have noted that *“Exposure to radio waves is not new and health-related research has been conducted on this topic over several decades. In particular, a large amount of new scientific evidence has emerged since the year 2000 through dedicated national and international research programmes”* <https://www.gov.uk/government/publications/5g-technologies-radio-waves-and-health/5g-technologies-radio-waves-and-health>. 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”* 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>

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 Swedish Radiation Safety Authority has provided a review of the epidemiological, human and cellular experimental data in this area, taking into account the scientific quality of the studies. This review, part of an annual series, covers studies published from October 2015 up to and including March 2017. This evaluation is published in the report *“Recent Research on EMF and Health Risk - Twelfth report from SSM's Scientific Council on Electromagnetic Fields, 2017”* and notes that *“no new health risks have been identified.”*

In 2019 Public Health England (PHE) noted: *"It is possible that there may be a small increase in overall exposure to radio waves when 5G is added to an existing network or in a new area. However, the overall exposure is expected to remain low relative to guidelines and, as such, there should be no consequences for public health"* <https://www.gov.uk/government/publications/5g-technologies-radio-waves-and-health/5g-technologies-radio-waves-and-health>.

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.

In 2020 ICNIRP updated their safety guidelines noting that:
'we looked at the adequacy of the ones we published in 1998. We found that the previous ones were conservative in most cases, and they'd still provide adequate protection for current technologies'
https://www.icnirp.org/cms/upload/presentations/ICNIRP_Media_Release_110320.pdf

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