

## Exposure to radio waves

### Position statement

Nokia designs wireless network products that both transmit and receive radio frequency (RF) energy. We ensure that our product portfolio — including macro cells, small cells, which support 2G/3G/4G/5G mobile radio access technologies and other technologies such as Wi-Fi — comply with established national and international standards and regulations on RF exposure. We provide installation procedures and training to those working for and with Nokia to ensure that equipment is installed correctly and that the resulting radio wave exposure levels comply with established exposure limits.

We engage with customers and partners about RF exposure from our products and provide detailed instructions to ensure they are knowledgeable to operate equipment appropriately to keep both the general-public and workers' exposure levels below the established exposure limits.

Since the 1990s we have supported the development of global RF exposure assessment standards through participation in international standardization bodies such as the International Electrotechnical Commission (IEC), the International Telecommunication Union (ITU) and the European Committee for Electrotechnical Standardization (CENELEC).

We track the reports published by expert committees mandated by national and international authorities to assess the advancement of scientific knowledge about human exposure to radio waves. These reports have been consistent in concluding there is no established health effect from exposure to RF fields below the limits set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP), the international commissions recognized by the World Health Organization (WHO) or similar recommendations from the Institute of Electrical and Electronics Engineers (IEEE).

The following WHO statements apply to mobile and wireless network technologies implemented by Nokia:

- WHO's Fact Sheet 304 extracts:  
*"From all evidence accumulated so far, no adverse short- or long-term health effects have been shown to occur from the RF signals produced by base stations."*  
*"Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak radio frequency signals from base stations and wireless networks cause adverse health effects."*  
<http://www.who.int/peh-emf/publications/facts/fs304/en/>
- WHO's Fact Sheet 193 extract: *"A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use."*  
<http://www.who.int/mediacentre/factsheets/fs193/en/>

More resources:

- World Health Organization (WHO), Electromagnetic Fields ([www.who.int/peh-emf/en/](http://www.who.int/peh-emf/en/)).
- The International Commission on Non-Ionizing Radiation Protection (ICNIRP), (<https://www.icnirp.org/>)
- EMF Explained Series, an information resource referencing national and international health agencies ([www.emfexplained.info](http://www.emfexplained.info)).

We welcome questions and feedback. You can contact us at [sustainability.global@nokia.com](mailto:sustainability.global@nokia.com)