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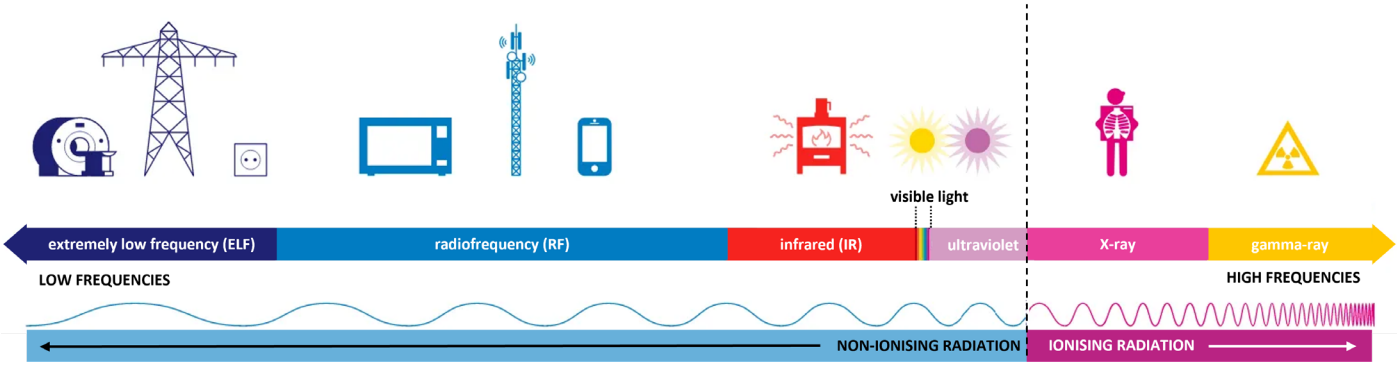
GENERAL INFORMATION ABOUT RF-EMFS

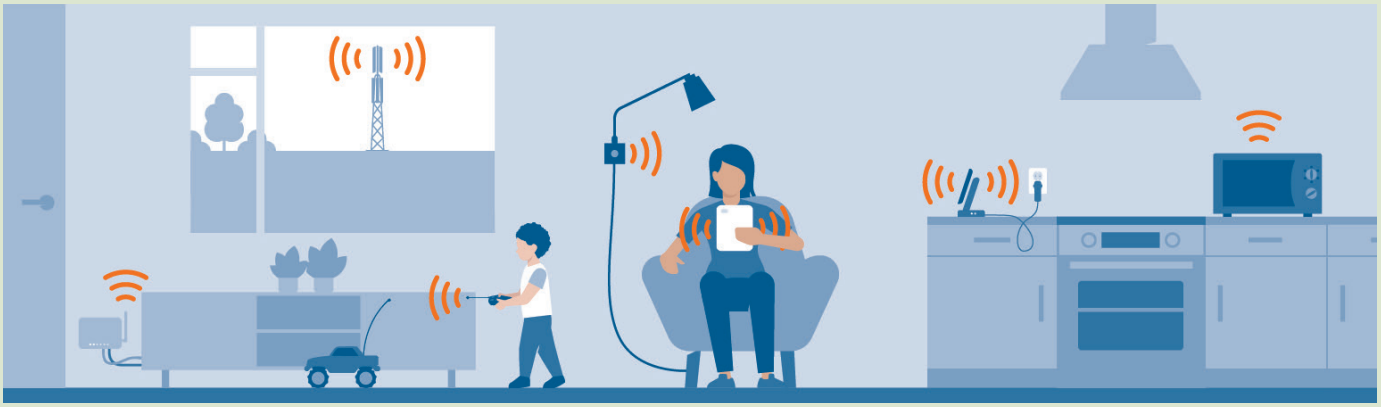
WHAT ARE EMFs?

Electromagnetic fields (***EMF***) result from sources that emit ***electric*** and/or ***magnetic energy***. Electromagnetic energy moves from a ***source*** through space like waves. These moving waves are also called ***fields***. These ***waves*** have different ***wavelengths*** and ***frequencies***. Low frequency EMF have a long wavelength and high frequency EMF have a short wavelength. The different types of EMF together form the electromagnetic spectrum, which is shown in the figure below. The figure also shows common applications of the different types of EMF.



WHERE ARE THE RF-EMFS?

This document is about radiofrequency EMFs (***RF-EMFs***). These are used in many different everyday services and devices. Nowadays, it is possible to have an internet connection and make phone calls almost everywhere. Therefore, a large and widespread telecommunication network is necessary.



WHAT ABOUT EXPOSURE AND HEALTH?

High frequency EMF, like X-rays, can damage molecules (***ionising***), including human DNA. RF-EMF do not damage molecules or atoms and are therefore ***non-ionising***. But depending on the frequency, strength and distance, RF-EMF can heat body parts. This is a ***biological effect***. Too much heating can be harmful, as some organs are sensitive to ***overheating***. Therefore, if field strengths are too high, RF-EMF may cause ***negative health effects***.

To avoid these effects, ***exposure limits*** and regulation are necessary, which are based on scientific research. Health effects have been studied in the past and continue to be studied in current research. Until now, no proof of harm to humans below the exposure limits has been found.

REDUCE YOUR EXPOSURE?

Some people want to reduce their exposure to RF-EMF. This is possible through the following measures:

- Use wired devices (keyboard, internet).
- Use device less or for a shorter amount of time.
- Do not use devices when there is a poor connection.
- Use a device with a lower SAR-value.
- Do not hold devices close to the body when it is making a connection.
- Use texting instead of voice calling.
- Increase the distance to devices (like the Wi-Fi router).

FIGURE SOURCES

Image of the EM spectrum (edited from): www.kennisplatform.nl/welke-soorten-elektromagnetische-velden-zijn-er

Remaining figures: www.rivm.nl/elektromagnetische-velden/emv-in-beeld

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About NextGEM

NextGEM aims to ensure the safety of EU citizens by developing frameworks for monitoring and assessing EMF exposure. The project's goal is to generate health-relevant scientific knowledge, create tools for risk assessment, and establish a Knowledge Hub for data storage and accessibility, particularly for policymakers and the scientific community.

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