



The Electromagnetic Energy (EME) in your mobile phone is non-ionising.

WHAT this means and WHY it's important to understand.

Electromagnetic Energy (EME) is a part of everyday life. It's produced by natural sources like the sun, the earth's atmosphere and even the human body. It's also produced by artificial sources like your radio, TV and mobile phone.

The electromagnetic spectrum

The electromagnetic spectrum is made up of different types of energy, or EME, ranging from X-rays to natural light. Depending on where in the spectrum the frequency and wavelength are, will make EME behave in different ways.

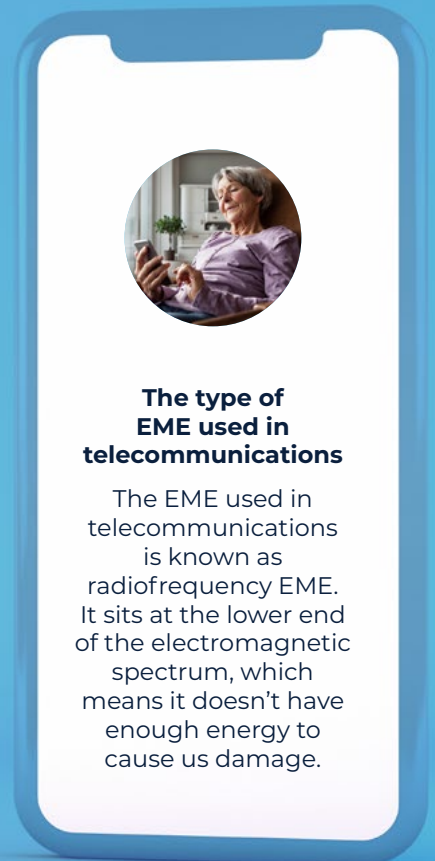
Ionising EME vs Non-ionising EME

You can split the electromagnetic spectrum into two sections – ionising and non-ionising.

Ionising EME, like X-rays and gamma rays, has very high frequencies and very short wavelengths. This means this type of EME has enough energy to damage chemical bonds and in some cases damage living tissue.

Non-ionising EME, like the radio frequency EME used in telecommunications, is at the other end of the electromagnetic spectrum. It's characterised by longer wavelengths and lower frequencies, and it's not powerful enough to break up molecular bonds.

This is why the type of energy we use in mobile phones and X-Ray machines can both be classified as EME, even if they both behave very differently.



The type of EME used in telecommunications

The EME used in telecommunications is known as radiofrequency EME. It sits at the lower end of the electromagnetic spectrum, which means it doesn't have enough energy to cause us damage.



Where do telecommunications systems sit on the Electromagnetic spectrum?

SAFE

LESS SAFE

Non-Ionising

Ionising



Earth & Subways



TV



Microwave & Satellites



Medical X-rays



Radioactive Sources



AC Power



Mobile Phones

Telecommunications technology is well inside the safe, non-ionising, end of the EME spectrum