Australian Government

Department of Communications and the Arts

Safety of mobile phone networks

Mobile phones and other wireless devices are an essential part of the daily work and home lives of all Australians, so it's important for the Australian Government to regulate the industry.

The Government reviews each generation of mobile and wireless network as it is developed, to keep devices safe for you and your family.

What is being built in my neighbourhood?

Telecommunications devices connect to nearby facilities to send and receive voice and data information. As the demand for services grows, and technology changes, telecommunications carriers (carriers) need to install new facilities and upgrade old ones.

You may notice more telecommunications infrastructure being installed in your local area. Australian carriers are continuing to install 4th Generation (4G) mobile technology and starting to install the next generation (5G) infrastructure.

Some of the facilities that you might see popping up in your area are shown in this diagram.

Carriers choose facilities based on the telecommunication needs of the area, existing infrastructure, and the facilities they have access to, taking into account the landscape, buildings and features around the site.
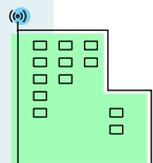
Towers and monopoles
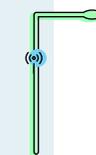Often used for coverage over wider areas.
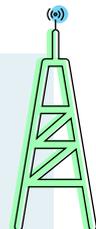
Antennas
Often on buildings, installed in areas where a tower would be impractical.

Small cells
Often on light poles or other infrastructure in urban areas.

There is no substantiated evidence that EME causes any harm to humans when it is below the limits specified in Australian safety standards.

What is electromagnetic energy?

The energy waves produced when we operate our mobile phones, Wi-Fi devices and computers is known as electromagnetic energy (EME) and connects your devices to your local infrastructure. You may also see this energy described as electromagnetic radiation (EMR) or electromagnetic fields (EMF).

There is no substantiated evidence that EME causes any harm to humans when it is below the limits specified in Australian safety standards. The Australian Government has an ongoing research program and strong laws in place to make sure EME continues to be used safely.

There are two independent Government bodies responsible for overseeing the safety and regulation of EME from telecommunications facilities in Australia:

- The Australian Communications and Media Authority (ACMA) is the Australian Government's communications industry regulator

- The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is the Australian Government's authority on radiation protection and nuclear safety

How electromagnetic energy is regulated

- **Licensing**: If a telecommunications carrier wants to build or use a facility, they need to apply to ACMA for a licence and comply with general public EME exposure levels.

- **Standards**: ARPANSA sets the general public EME exposure levels in its radiofrequency (RF) Standard. Each carrier must make sure its EME output is within these levels in places accessible to the public.

- **Compliance**: The carrier must keep EME compliance records for each site and make this information available to the public. ACMA checks EME compliance through record audits, investigations, site inspections and testing.

- **Enforcement**: If a carrier fails to meet their licence conditions, it could be subject to court proceedings and face penalties of up to $315,000 or two years imprisonment.

How do I know a site is safe?

Telecommunications facilities must comply with exposure limits set out by ARPANSA in its Radiation protection standard for maximum exposure levels to radiofrequency fields — 3 kHz to 300 GHz.
The RF Standard:

- is based on decades of peer-reviewed scientific research
- protects people of all ages and health status
- identifies the levels at which harmful health effects can occur and sets exposure limits well below those levels.

When carriers are installing infrastructure, they must assess and report the maximum possible EME exposure that could occur at that site.

You can check the maximum possible EME levels of a particular site by visiting the Radio Frequency National Site Archive at: www.rfnsa.com.au. You can also contact a carrier directly to request a copy of the EME information for a particular site.

If you are concerned a site is exceeding the general public exposure limits you should seek information from the carrier. If your concerns are not addressed, you can make a complaint to ACMA at www.acma.gov.au.

Where can I find more information?

There is a program operated by ARPANSA that allows the public to talk directly with scientific experts on EME exposure. The program is available at www.arpansa.gov.au/contact-us/talk-to-a-scientist.

More information about EME is available from:

- ARPANSA www.arpansa.gov.au
- ACMA www.acma.gov.au/our-rules-eme
- The World Health Organization www.who.int/peh-emf/en, and
- The Radio Frequency National Site Archive www.rfnsa.com.au.

You can also contact a telecommunications carrier directly for more information about EME, or information about a particular site, device or facility within its network:

- NBN Co Limited www2.nbnco.com.au/corporate-information/contact-us-form
- Telstra www.telstra.com.au/consumer-advice/eme
- Optus www.optus.com.au/about/sustainability/environment/our-environmental-responsibility/mobile-phone-towers
- Vodafone www.vodafone.com.au/support/network/base-stations, and
- TPG Telecom www.tpg.com.au/support/contact.