

5G, Small Cells and Electromagnetic Energy (EME)



Fact sheet

Is 5G safe?

- **Yes** - In January 2020 Australia's Chief Medical Officer said:
"I'd like to reassure the community that 5G technology is safe. There is no evidence telecommunication technologies, such as 5G, cause adverse health impacts. This position is supported by health authorities in Australia – such as the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) – and around the world, such as the World Health Organization (WHO)."
- **Over 50 years of scientific research** exists on the possible health effects of the radio frequency signals used for mobile and wireless services including 5G..
- **Safety Standards** – the EME safety standards cover 5G, include children and are conservative.

The facts about 5G

- **5G is very efficient**
Which means low levels of EME
- **5G Frequencies & Power levels**
Similar to 3G and 4G used today
- **5G Devices & Networks**
Tested to the EME safety standards



arpansa

ARPANSA's scientific reviews have deemed low-level 5G radio waves safe for public exposure



World Health Organization

There is no evidence that exposure to low level EME is harmful to human health

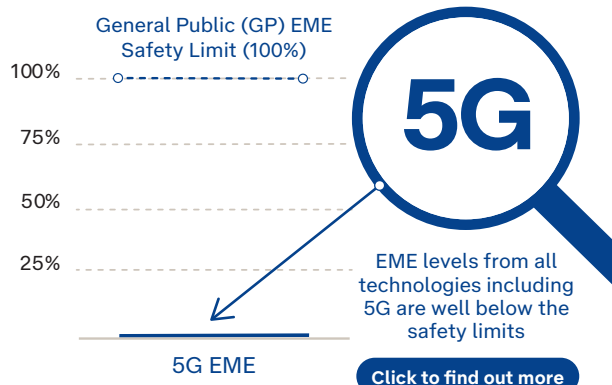


What testing has Telstra done in relation to 5G?

- We have done extensive EME testing on our 5G network at different locations including schools, cafes, CBDs, apartments, homes, sporting fields and residential areas..
- We have found the EME levels to be similar to 3G, 4G and WiFi.
- The EME levels measured were found to be well below the safety limits, and in many cases over a thousand times lower.
- We continually monitor our network and the ACMA conducts EME compliance audits.



5 Years of 5G EME Surveys



5G and small cells

Is Telstra using small cells for 5G?

- Yes, small cells are being used to provide enhanced 5G coverage and capacity for customers..

Where are 5G small cells installed?

- 5G small cells are designed for residential and commercial areas where customers need access to quality high speed and high capacity mobile services.

Do small cells have high EME?

- No, small cells operate at low power and have low EME levels.



Example 5G small cells installed on street poles

Small cells are not new and have been used for many years to enhance capacity and boost coverage



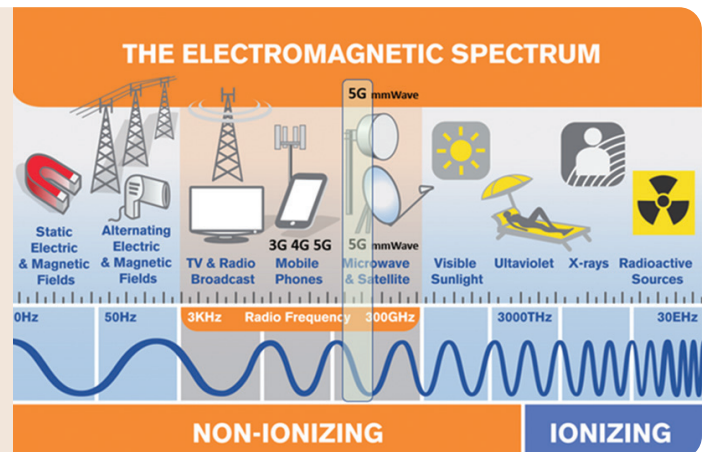
What frequencies are used for 5G?

5G uses 3 frequency bands:

- Low Band – for coverage
- Mid Band – for coverage and capacity
- High Band – for localised coverage and capacity

High Band operates at 26-27.5 GHz frequencies which is not new, it's a higher frequency band sometimes referred to as mmWave and already used for other types of wireless communications.

Telstra's High Band 5G testing showed EME levels were very low and similar to existing technologies.



Resources

Source	Website
Australian Government Department of Communications – EME Information	www.eme.gov.au
Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) – EME Q&A	https://www.arpansa.gov.au/regulation-and-licensing/regulatory-publications/radiation-protection-series/codes-and-standards/rpss-1-qa
Australian Communications and Media Authority (ACMA) – 5G EME Information	https://www.acma.gov.au/eme-5g-and-you
Australian Chief Medical Officer – Safety of 5G Technology Statement	https://www.health.gov.au/news/safety-of-5g-technology
World Health Organization (WHO) – 5G mobile networks and health	https://www.who.int/news-room/q-a-detail/radiation-5g-mobile-networks-and-health
EMF Explained – How 5G Works	http://www.emfexplained.info/?ID=25916
Telstra 5G and EME	https://www.telstra.com.au/consumer-advice/eme/5g-and-eme
Telstra Exchange Articles – Public information on 5G and EME	https://exchange.telstra.com.au/5g-electromagnetic-energy-eme-and-your-health-here-are-the-facts/
Telstra 5G smart apartment testing	https://exchange.telstra.com.au/5g-vs-50-devices-network-and-eme-in-a-smart-apartment/



Contact us

EME General Enquiries

Telstra Basestation Enquiries

EME.Enquiries@team.telstra.com

Basestation.Enquiries@team.telstra.com