

The ACMA's 5G and EME compliance program

Measuring electromagnetic energy (EME)
near 5G mobile base stations

Why 5G?





EME measurements at more than 370 5G-enabled base station sites across Australia

- > First tranche: Victoria – 129 sites
- > Second tranche: New South Wales – 129 sites
- > Third tranche: Queensland – 129 sites
- > Ongoing: mix of new and previously visited sites – 130 sites annually

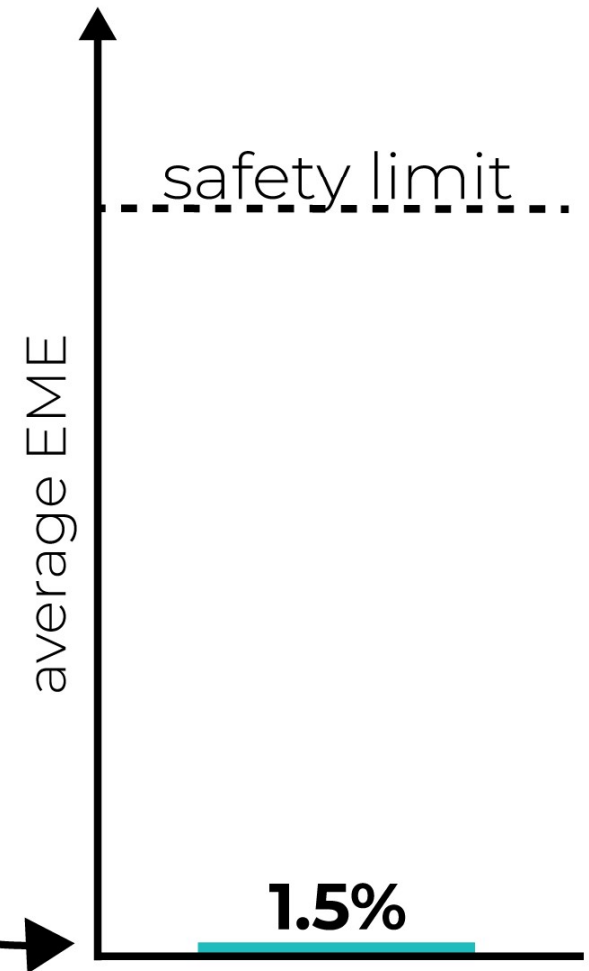


Category 1
Environmental EME
measurements

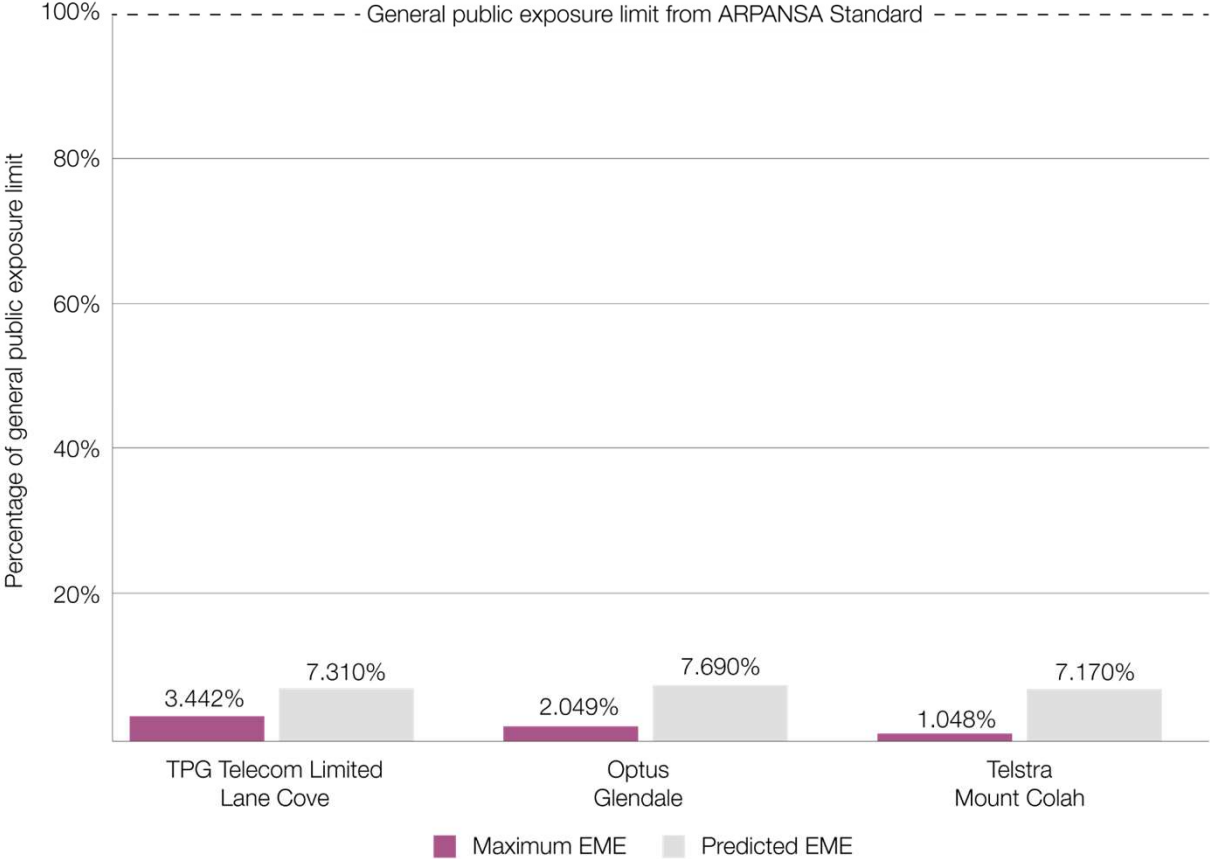
Category 2
Comparisons to
Telco's predicted EME

Category 3
Investigation of 5G
beamforming
technology

Average EME from Australian **5G-enabled towers** is **less than 1.5%** of the **safety limit**.



Measured vs. predicted



- > Measured levels significantly lower than the predicted
- > Predictions modelled with 'transmitter always on'. Assessments are very conservative
- > At 99% of sites – measured EME less than 50% of predicted EME
- > ACMA results used to inform international standards

EME and 5G beamforming



5G base station with beamforming antenna

5G beamformed path



EME measurement probe positioned 1.5 m above ground at predicted maximum EME distance from base station



5G smart phone with Ookla speed test application positioned 3 m behind measurement probe

EME Checker

Check mobile phone tower emissions near you

 Find a location



acma

Australian
Communications
and Media Authority

[acma.gov.au](https://www.acma.gov.au)

EME Checker

Check mobile phone tower emissions near you

 Find a location





Thank you