

Specific Absorption Rate (SAR)

Voluntary Specific Absorption Rate phase-in for mobile phones begins October 1, 2001

Mobile phone handset manufacturers will voluntarily start to include Specific Absorption Rate (SAR) information in the product manuals, or in a separate brochure in the box, of new mobile phone models released in Australia after October 1, 2001.

What is SAR and what is it used for?

SAR (Specific Absorption Rate) is a unit of measurement of the amount of radio frequency energy absorbed by the body when using a mobile phone. Currently, in Australia the safety limit for mobile phone exposure for users is set at a maximum of 1.6 watts per kilogram averaged over one gram; however, the Government's health agency is considering bringing the Australian safety limit in line with the rest of the world. The most common safety limit used around the world is the one set by the International Commission for Non-Ionizing Radiation Protection (ICNIRP) which is 2.0 watts per kilogram averaged over ten grams.

How is SAR measured?

SAR is measured using a standard worldwide test method, which has recently been developed by the European Committee for Electrotechnical Standardisation (CENELEC).

Mobile phones are tested using a phantom head that is based on the dimensions of a large adult male head to ensure worst-case measurements. The phantom head is filled with liquid that simulates human head tissue and SAR values are measured with the phone at maximum power and placed in a number of positions to simulate normal use. This also includes tests with the antenna in or out and at the different frequencies the model of phone can operate at. A probe inside the liquid measures the electric field strength inside the phantom head and shows the maximum SAR value for the model of mobile phone.

The test procedure including the testing of phone accessories can take up to two weeks.

In Australia and overseas, only mobile phones that have maximum SAR values below the safety limit can be sold.

Does a lower SAR mean a phone is safer?

No. Although mobile phones sold in Australia may vary slightly in their measured exposure levels at maximum power output, they are regarded as equally safe because they are all below the safety limit. The limit also includes a large additional safety margin to ensure mobile phones are safe.

Furthermore, the test method is designed to find the maximum SAR value for each phone, which does not necessarily reflect the exposure in every-day use. In order to improve battery life and available call time, mobile phones constantly adapt to the minimum power required to make a quality call depending on reception and how close they are to the nearest base station. This is called adaptive power control.

Generally the closer you are to a base station, the lower the output of the phone.

More information about specific products can be found at the following locations:

Alcatel	www.alcatel.com
Ericsson	www.ericsson.com.au
Hyundai	link coming soon
LG	www.lge.com.au
Mitsubishi Electric	www.mitsubishielectric.com
Motorola	wwwapps.motorola.com
NEC	www.nec.com.au
Nokia	www.nokia.com.au
Panasonic	www.mcuk.panasonic.co.uk
Sagem	www.sagem.com
Samsung	www.samsung.com.au
Siemens	www.siemens.com.au
Sony	www.sony.com
SonyEricsson	www.sonyericssonmobile.com.au

Other manufacturers not listed are not members of AMTA and are not bound by AMTA agreements.

Useful external links

Please note - as with all external links on the ACMEONLINE website, ACME is unable to verify the information provided, and therefore is unable to guarantee the accuracy of information contained on external pages. These links are provided as a useful services to consumers.

Mobile Manufacturers Forum

The MMF is an international association of radio equipment manufacturers whose members include Alcatel, Ericsson, Mitsubishi Electric, Motorola, Nokia, Panasonic, Philips, Siemens and Sony.

The MMF was formed in 1998 to jointly fund key research projects, as well as to cooperate on standards, regulatory issues and communications activities concerning health and mobile phones.