

Australian Communications and Media Authority

EXPLANATORY STATEMENT

Radiocommunications (Electromagnetic Radiation – Human Exposure) Amendment Standard 2007 (No. 1)

Radiocommunications Act 1992

Introduction

This explanatory statement is made by the Australian Communications and Media Authority (ACMA) in relation to the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Amendment Standard 2007 (No. 1)* (“the Amendment Standard”).

The Amendment Standard modifies the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003* (“the EMR Standard”) to adopt the test methodology, known as EN 62209-1, to be used in the health exposure assessment of mobile/cordless phones; and also recognise the calculated methods (i.e. use of mathematical formulae) of Australian Standard AS 2772.2 in the health exposure assessment of radio devices designed to operate more than 20 cm from the human body.

Background

Under section 162 of the *Radiocommunications Act 1992* (‘the Act’) the Australian Communications and Media Authority (ACMA) has powers to make standards for radio transmitters so as to protect the health and safety of people who operate, work on, use, or are reasonably likely to be affected by the operation of such devices. Under these powers, ACMA introduced in March 2003 the EMR Standard that requires a wide range of mobile and portable transmitter devices, such as cellular and cordless phones, to comply with a safe radiofrequency electromagnetic radiation (EMR) exposure limit. ACMA’s EMR Standard is based on exposure limits set by the Australian Radiation Protection and Nuclear Safety Agency¹ (ARPANSA). ARPANSA is a Commonwealth Government agency under the Health and Ageing Portfolio responsible for radiation research and protection.

The EMR Standard also specifies measurement methods to be used in testing particular transmitter types against mandated exposure limits. For devices intended to be used against the human ear, such as a mobile phone, the measurement method for testing against the exposure limits is detailed in either the document known by reference EN 50361² or Schedule 2 of the EMR Standard. These methods ensure consistency in the measurement technique by specifying the position of the mobile phone against the human head, parameters of the head tissue, characteristics of the measurement instrument

¹ ARPANSA’s radiofrequency EMR exposure limit is detailed in the publication *Maximum Exposure Levels to Radiofrequency Fields – 3 kHz to 300 GHz* available at website: http://www.arpansa.gov.au/rps_pubs.htm.

² EN 50361: *Basic standard for the measurement of specific absorption rate related to human exposure to electromagnetic fields from mobile phones (300 MHz – 3 GHz)* is published by the European Committee for Electrotechnical Standardisation.

and other relevant matters. EN 50361 is a European Union measurement method whilst Schedule 2 of the EMR Standard is almost identical to the methods approved by the Federal Communications Commission, the United States (US) government agency responsible for telecommunications regulation. Recognition of both the EU and US measurement methods was necessary because no equivalent international based standard was available at the time. The International Electrotechnical Commission (IEC) has since published, in February 2005, measurement standard IEC 62209-1³ for hand-held devices used in close proximity to the human ear. Since the publication of IEC 62209-1, the European Union has adopted this standard which it has renamed EN 62209-1, and the US is moving to recognise the standard. Recognition of EN 62209-1 in the EMR Standard would align Australia with international developments as global mobile phone manufacturers are now using this test method.

For radio devices designed for use at more than a 20 cm distance from the human body, such as a wireless local area network (WLAN) transmitter installed in a desk top computer, the measurement method for assessing these devices is contained in the document known by reference AS 2772.2⁴. This document facilitates either a measured (i.e. use of measurement instrument) and, in certain circumstances, a calculated (i.e. use of mathematical formulae) approach in the assessment of devices. Currently the EMR Standard restricts application of AS 2772.2 to a measurement approach. Because AS 2772.2 allows for a calculated approach, and as many countries permit this type of assessment, recognition of calculated assessments would align Australia with other countries. Industry regulatory costs would also be reduced as calculated assessments are more cost effective compared to measurements.

NOTES ON THE DRAFT INSTRUMENT

Section 1 Name of Standard

Section 1 provides that the Amendment is to be cited as the *Radiocommunications (Electromagnetic Radiation — Human Exposure) Amendment Standard 2007 (No. 1)*.

Section 2 Commencement

Section 2 sets the commencement date for the Amendment to be 1 April 2007.

³ IEC 62209-1: *Human exposure to radio frequency fields from hand-held and body-mounted wireless communications devices – Human models, instrumentation, and procedures – Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)*.

⁴ AS 2772.2: *Radiofrequency radiation. Part 2: Principles and methods of measurement* published by Standards Australia.

Section 3 Amendment of *Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003*

Section 3 provides that the EMR Standard is amended by the amendments listed in Schedule 1 of the instrument.

Schedule 1 Amendments

[1] Subsection 5 (1), after definition of *EN 50361*

This amendment inserts the definition of *EN 62209-1* in the EMR Standard. EN 62209-1 is a European Union harmonised standard based on IEC 62209-1, a standard developed by Technical Committee TC106 of the International Electrotechnical Commission (IEC). Australia has active representation on TC106 through the participation of Standards Australia (<http://www.standards.org.au/>).

[2] Subsection 5 (1), definition of *old standard*

This amendment defines *old standard* to be the *Radiocommunications (Electromagnetic Radiation - Human Exposure) Standard 2003* as in force immediately before 1 April 2007.

[3] Subsection 5 (2)

This amendment provides that a reference in the EMR Standard to a publication or other document of Standards Australia, British Standards Institution or European Committee for Electrotechnical Standardisation is a reference that is in force from time to time. This means that an amendment to these publications or documents would also be recognised immediately within the EMR Standard without any amendment of the EMR Standard.

[4] Section 6, heading

This amendment substitutes a new heading for section 6.

[5] Paragraph 6 (1) (a)

This amendment omits ‘1 March 2003’ and substitutes ‘1 April 2007’. The effect is that the requirements of the Amendment Standard will commence for mobile phones manufactured or imported, or first offered for supply, or altered or modified in a material respect on or after 1 April 2007.

[6] Section 7, including notes

This amendment provides that on and after 1 April 2007, the old standard will continue to apply to mobile stations that were not manufactured or imported, or first offered for supply, or altered or modified in a material respect on or after 1 April 2007.

[7] Section 8

This amendment omits section 8 of the EMR Standard. Section 8 is no longer relevant.

[8] Section 9 (1)

This amendment omits ‘or 8(1)’ in subsection 9 (1). Because of the amendment that omits section 8, reference to ‘or 8(1)’ is no longer relevant.

[9] Section 9 (2)

This amendment omits ‘or 8(1)’ in subsection 9 (2). Because of the amendment that omits section 8, reference to ‘or 8(1)’ is no longer relevant.

[10] Subsection 10 (2) and (3)

This amendment provides transitional arrangements to permit the use of test methodologies specified EN 50361 or Schedule 2 of the EMR Standard or EN 62209-1 to determine if a device meets the standard before 1 March 2009. From 1 March 2009, the use of test methodology EN 62209-1 will be the only method permitted to determine if a device meets the standard.

[11] Section 12, heading

This amendment substitutes a new section heading.

[12] Subsection 12 (2)

This amendment omits the word ‘measured’ and inserts the word ‘assessed’.

[13] Subsection 12 (3)

This amendment omits the word ‘measured’ and inserts the word ‘assessed’.

[14] Subsection 12 (4)

This amendment omits the word ‘measured’ and inserts the word ‘assessed’.

[15] Schedule 1

This amendment omits Schedule 1 of the EMR Standard. Schedule 1 is an early test methodology no longer used in the assessment of mobile phones.