EXPLANATORY STATEMENT

Approved by the Australian Communications and Media Authority

Radiocommunications Act 1992

Radiocommunications (Electromagnetic Radiation – Human Exposure) Amendment Standard 2020 (No. 1)

Authority

The Australian Communications and Media Authority (**the ACMA**) has made the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Amendment Standard 2020 (No. 1)* (**the instrument**) under subsection 162(1) of the *Radiocommunications Act 1992* (**the Act**) and subsection 33(3) of the *Acts Interpretation Act 1901* (**the AIA**).

Subsection 162(1) of the Act relevantly provides that the ACMA may, by legislative instrument, make standards for the performance of specified devices. Subsection 162(3) provides that standards are to consist only of such requirements as are necessary or convenient for certain purposes, including protecting the health or safety of persons who operate or work on, use services supplied by means of, or are reasonably likely to be affected by the operation of, radiocommunications transmitters or radiocommunications receivers (see paragraph 162(3)(f)).

Subsection 33(3) of the AIA relevantly provides that where an Act confers a power to make a legislative instrument, the power shall be construed as including a power exercisable in the like manner and subject to the like conditions (if any) to repeal, rescind, revoke, amend, or vary any such instrument.

Purpose and operation of the instrument

Regulatory arrangements for electromagnetic energy (**EME**), electromagnetic compatibility, and radiocommunications devices are intended to minimise health, safety and interference risks associated with the supply and operation of intentionally and non-intentionally emitting devices. Radiocommunications standards made under subsection 162(1) of the Act form part of the regulatory framework under the Act for the management of radiocommunications spectrum in Australia.

The ACMA regulates human exposure to radiofrequency (**RF**) EME emissions from equipment (such as mobile telephone handsets) and radiocommunications facilities (such as mobile telephone base stations) through:

- making regulatory arrangements (standards, labelling notices) for mobile and portable transmitters at the point of supply to the Australian market, including testing, labelling and record keeping obligations; and
- imposing licence conditions on the operation of radiocommunications transmitters.

The objective of the arrangements is to ensure that public exposure to EME from radio transmitters does not exceed the Australian exposure limits published by the Australian Radiation Protection and Nuclear Safety Agency (**ARPANSA**).

The instrument amends the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2014* (**the Standard**) to ensure that appropriate test methods for compliance with the Standard are specified for devices operating above 6 GHz.

The Standard specifies EME exposure limits for mobile stations, which are defined to be a subset of radiocommunications transmitters, and the test method a supplier must follow to determine the specific absorption rate or RF fields associated with those transmitters. The test methods required by

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the Standard are those set out in particular Australia/New Zealand standards and international test method standards.

The rollout of 5G deployments in the mmWave bands will require handsets to operate on frequencies above 6 GHz. At the time the instrument was made there were no finalised international standards on assessment methods for devices operating above 6 GHz that function in close proximity to the head or body.

The International Electrotechnical Commission (IEC) TC106 Committee has a joint project underway with the Institute of Electrical and Electronic Engineers (IEEE) to develop a joint international standard (IEC/IEEE 63195-1) for assessment of human exposure from wireless devices operating in close proximity to the head and body in the frequency range 6 GHz to 300 GHz.

In 2018, the IEC committee TC-106 developed and published ***IEC TR 63170:2018*** – *Measurement procedure for the evaluation of power density related to human exposure to radio frequency fields from wireless communication devices operating between 6 GHz and 100 GHz* (**IEC TR 63170**).

IEC TR 63170 is a technical report that describes measurement techniques and test approaches for evaluating the local and spatial average incident power density of wireless devices operating in close proximity to the user between 6 GHz and 100 GHz.

The instrument amends the Standard to adopt IEC TR 63170 as the measurement method that applies to devices operating above 6 GHz. This will effectively ensure that these devices must be tested and labelled as compliant with the Standard prior to supply in a manner that is equivalent to that for equipment operating below 6 GHz.

Adopting the technical report is an interim measure until an appropriate international standard is available. At that time, the ACMA will undertake its usual process to consider whether to adopt the international standard, including consulting with the public and all interested parties.

A provision-by-provision description of the instrument is set out in the notes at **Attachment A**.

The instrument is a legislative instrument for the purposes of the *Legislation Act 2003* (**the LA**).

Documents incorporated by reference

The instrument inserts into the Standard a reference to IEC TR 63170 as in existence from time to time, as permitted by section 314A of the Act.

The reference to IEC TR 63170 in the instrument also incorporates reference to any future document published by the IEC that is expressed to replace IEC TR 63170. This is permitted by subsection 314A(2) of the Act.

Copies of IEC TR 63170 may be obtained for a fee from a Standards Australia distributor listed on the Standards Australia website (http://www.standards.org.au/search-for-a-standard) or can otherwise be made available for viewing on prior request at an ACMA office, subject to licensing conditions. Replacement documents (if any) will be made available in like manner.

Consultation

Before the instrument was made, the ACMA was satisfied that consultation was undertaken to the extent appropriate and reasonably practicable, in accordance with section 17 of the LA.

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Subsection 163(1) of the Act requires that before the ACMA makes a standard the ACMA must, so far as is practicable, try to ensure that interested persons have had an adequate opportunity to comment on the proposed standard and that due consideration has been given to any representations made.

The ACMA conducted a public consultation process in relation to the proposal to make the instrument during the period 29 January 2020 to 12 March 2020. A draft instrument and consultation paper containing explanatory information were made available on the ACMA website. Interested parties were notified of the release of the draft instrument and invited to comment.

The ACMA received six submissions in response to the consultation and these were considered when making the instrument. All submissions expressed support for the proposed amendments.

Regulatory impact assessment

A preliminary assessment of the proposal to make the instrument was conducted by the Office of Best Practice Regulation (**OBPR**), based on information provided by the ACMA, for the purposes of determining whether a Regulation Impact Statement (**RIS**) would be required. OBPR advised that a RIS would not be required because the regulatory changes effected by the instrument have only a minor and machinery regulatory impact on businesses, community organisations or individuals (OBPR reference number 25984).

Statement of compatibility with human rights

Subsection 9(1) of the *Human Rights (Parliamentary Scrutiny) Act 2011* requires the rule-maker in relation to a legislative instrument to which section 42 (disallowance) of the LA applies to cause a statement of compatibility with human rights to be prepared in respect of that legislative instrument.

The statement of compatibility set out below has been prepared to meet that requirement.

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Overview of the instrument

The instrument amends the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2014* (**the Standard**) made under subsection 162(1) of the *Radiocommunications Act 1992*. The Standard specifies electromagnetic energy exposure limits for mobile stations, which are defined to be a subset of radiocommunications transmitters, and the test method a supplier must follow to determine the specific absorption rate or radiofrequency fields associated with those transmitters.

The rollout of 5G deployments in the mmWave bands will require handsets to operate on frequencies above 6 GHz. At the time the instrument was made, there were no finalised international standards for measurement methods for devices operating above 6 GHz that function in close proximity to the head or body.

In 2018, the IEC committee TC-106 developed and published IEC TR 63170. IEC TR 63170 is a technical report that describes measurement techniques and test approaches for evaluating the local and spatial average incident power density of wireless devices operating in close proximity to the user between 6 GHz and 100 GHz.

The instrument amends the Standard to adopt IEC TR 63170 as the applicable method of measurement to determine whether such devices are operating within the EME limits specified in the Standard. This ensures that devices operating above 6 GHz will be covered by device supply arrangements equivalent to that for equipment operating below 6 GHz.

Human rights implications

The ACMA has assessed whether the instrument is compatible with human rights, being the rights and freedoms recognised or declared by the international instruments listed in subsection 3(1) of the *Human Rights (Parliamentary Scrutiny) Act 2011* as they apply to Australia.

Having considered the likely impact of the instrument and the nature of the applicable rights and freedoms, the ACMA has formed the view that the instrument does not engage any of those rights or freedoms.

Conclusion

The instrument is compatible with human rights as it does not raise any human rights issues.

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Attachment A

Notes to the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Amendment Standard 2020 (No. 1)*

Section 1 Name

This section provides for the instrument to be cited as the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Amendment Standard 2020 (No. 1)*.

Section 2 Commencement

This section provides for the instrument to commence at the start of the day after it is registered on the Federal Register of Legislation.

Section 3 Authority

This section identifies the provision of the Act that authorises the making of the instrument, namely subsection 162(1) of the *Radiocommunications Act 1992* (**the Act**).

Section 4 Amendments

This section provides that Schedule 1 amends the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2014* (**the Standard**), as set out in the applicable items in the Schedule.

Schedule 1 – Amendments

Item 1 Subsection 5(1) (after the definition of *IEC 62209-2*)

This item inserts the definition of ***IEC TR 63170*** to mean the *Measurement procedure for the evaluation of power density related to human exposure to radio frequency fields from wireless communication devices operating between 6 GHz and 100 GHz* (**IEC TR 63170**), published by the International Electrotechnical Commission (**IEC**).

Paragraph (b) of the definition of IEC TR 63170 has the effect that if a later document published by the IEC is expressed to replace IEC TR 63170, then the later document is incorporated by reference into the Standard.

This item also inserts a note to state that IEC TR 63170 may be obtained for a fee from a Standards Australia distributor listed on the Standards Australia website or can otherwise be made available for viewing on prior request at an ACMA office, subject to licensing conditions.

Item 2 Paragraph 6(2)(f)

This item makes a consequential change as a result of the addition of sections 9B and 10A by items 7 and 9.

Item 3 Subsection 8(1)

This item makes a consequential change as a result of the addition of sections 9B and 10A by item 7 and item 9.

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Item 4 Subsection 8(2)

This item makes a consequential change as a result of the addition of sections 9B and 10A by item 7 and item 9.

Item 5 Section 9 (heading)

This item inserts the frequency range 300MHz to 6GHz into the heading of the section. This clarifies that the testing methodology identified in section 9 applies to devices operating in this frequency range.

Item 6 Section 9A (heading)

This item inserts the frequency range 300MHz to 3GHz into the heading of the section. This clarifies that the testing methodology specified in section 9A applies to devices operating in this frequency range.

Item 7 After section 9A

This item inserts new sections 9B and 9C to prescribe measurement methods and transitional arrangements for aware user devices and non-aware user devices used in close proximity to the ear which transmit on a frequency above 6GHz but less than or equal to 100GHz.

This item outlines that subject to section 9C, section 9B applies to a device that is designed to be used or held with the radiating part of the device in close proximity to the human ear and transmits on a frequency in the frequency band above 6GHz but less than or equal to 100GHz. To determine if such devices meet the standard for performance set out in subsection 8(1) or 8(2), the measurement methods identified in IEC TR 63170 must be used and a test report must comply with the requirements in IEC TR 63170.

The new section 9C sets transitional arrangements for a device that is designed to be used or held with the radiating part of the device in close proximity to the human ear and transmits on a frequency above 6GHz but less than or equal to 100GHZ, and that was either manufactured or imported, altered or modified no later than three months after the commencement of the instrument. Suppliers of such devices will not have to re-test devices to demonstrate compliance with the standard for performance set out in subsection 8(1) or 8(2).

Item 8 Section 10 (heading)

This item inserts the frequency range 30MHz to 6GHz into the heading of the section. This clarifies that the testing methodology specified in section 10 applies to devices operating in this frequency range.

Item 9 After section 10

This item inserts new sections 10A and 10B to prescribe measurement methods and transitional arrangements for aware user devices and non aware user devices used 20cm or less from the human body.

Subject to section 10B, the new section 10A applies to a device that is designed to be used or held with the radiating part of the device used in close proximity to the human body but not more than 20cm from the human body and transmits on a frequency in the frequency band above 6GHz but less than or equal to 100GHz.

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Subsection 10A(2) has the effect that the measurement methods that must be used to determine if the device meets the standard of performance in subsection 8(1) or 8(2) are those prescribed in the technical report IEC TR 63170 and a test report must comply with the requirements in IEC TR 63170.

The new section 10B sets transitional arrangements for a device that is designed to be used or held with the radiating part of the device in close proximity to the human body but no more than 20cm from the human body and transmits on a frequency above 6GHz but less than or equal to 100GHZ, and that was either manufactured or imported, altered or modified no later than three months after the commencement of the instrument. Suppliers of such devices will not have to re-test devices to demonstrate compliance with the standard for performance set out in subsection 8(1) or 8(2).

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