EXPLANATORY STATEMENT

Approved by the Australian Communications and Media Authority

Radiocommunications Act 1992

Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 26 GHz Band) 2020

Authority

The Australian Communications and Media Authority (**the ACMA**) has made the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 26 GHz Band) 2020* (**the instrument**) under section 262 of the *Radiocommunications Act 1992* (**the Act**).

Section 262 of the Act provides that the ACMA may make written advisory guidelines about any aspect of radiocommunication or radio emissions.

Purpose and operation of the instrument

A spectrum licence permits a licensee, subject to specified conditions, to operate radiocommunications devices within spectrum space defined by a frequency band and a geographic area. Interference occurring between adjacent spectrum licences consists of in-band interference, across the geographic boundaries, and out-of-band interference, across the frequency boundaries. Interference can also occur between spectrum licensed services and services operating under apparatus and class licensing arrangements.

The purpose of the instrument is to provide recommendations on the management and settlement of interference to radiocommunications receivers operating under spectrum licences in the 25.1 GHz–27.5 GHz band (**the 26 GHz band**) and caused by radiocommunications transmitters operating under other licences.

The instrument is part of a set of legal instruments which will give effect to the spectrum licence technical framework applicable to the 26 GHz band, including the following:

- *Radiocommunications (Spectrum Re-allocation — 26 GHz Band) Declaration 2019*;
- *Radiocommunications Spectrum Marketing Plan (26 GHz Band) 2020*;
- *Radiocommunications (Unacceptable Levels of Interference — 26 GHz Band) Determination 2020*;
- *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 26 GHz Band) 2020.*

Spectrum licensed radiocommunications receivers operating in the 26 GHz band could potentially suffer interference caused by radiocommunications transmitters operated under a licence in or adjacent to the 26 GHz band.

Interference is generally managed by a set of interference management tools given effect by the Act and implemented by the ACMA. These tools include:

- the core conditions of the spectrum licence;
- determinations made under subsection 145(4) of the Act about what constitutes unacceptable interference for the purpose of device registration under section 145; and
- advisory guidelines made under section 262 of the Act about managing interference in specific circumstances.

The instrument is made under section 262 of the Act. It aims to assist the ACMA and licensees to manage interference by providing:

- compatibility requirements for registered fixed receivers operating under spectrum licences issued in the 26 GHz band in order to manage in-band and out-of-band interference; and
- protection from interference caused by radiocommunications transmitters operating under apparatus licences, class licences and spectrum licences issued after the commencement of the *Radiocommunications Spectrum Marketing Plan (26 GHz) 2020*.

The ACMA will take the instrument into account when determining whether a licensee is causing interference to a receiver that is operating in accordance with a 26 GHz spectrum licence.

The instrument does not limit the actions of a spectrum licensee in negotiating operational or protection arrangements with another licensee.

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

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

Documents incorporated by reference

Subsection 314A(2) of the Act provides that an instrument under the Act may make provision in relation to a matter by applying, adopting or incorporating (with or without modifications) matter contained in any other instrument or writing as in force or existing at a particular time or from time to time.

The instrument incorporates the ACMA document *Radiocommunications Assignment and Licensing Instruction (RALI) MS 46* (**RALI MS 46**), as existing from time to time. RALI MS 46 sets out the procedures to be followed when issuing area-wide licences for devices in the frequency range 24.7 GHz–30 GHz and managing co-existence between these devices and with other services. RALI MS 46 is available, free of charge, from the ACMA's website: www.acma.gov.au.

The instrument also incorporates the following Acts and legislative instruments (including by the adoption of definitions), as in force from time to time:

- the Act;
- the *Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018;*
- the *Radiocommunications (Interpretation) Determination 2015*;
- the *Radiocommunications (Unacceptable Levels of Interference – 26 GHz Band) Determination 2020*.

Each of these Acts and legislative instruments is available, free of charge, from the Federal Register of Legislation (www.legislation.gov.au).

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.

In November 2019, the ACMA set up a short-term industry technical liaison group (**TLG**) to support the development of a technical framework to support the introduction of 5th generation wireless broadband services in the 26 GHz band.

The TLG was asked to consider and provide advice to the ACMA on technical aspects required for the development of the spectrum licence technical framework in the 26 GHz band. These included:

- the development of the core conditions of the spectrum licensed band in accordance with section 66 of the Act;
- the development of the determination on unacceptable levels of interference made under section 145 of the Act;
- the development of any associated advisory guidelines to be made under section 262 of the Act, including the instrument;
- the development of a draft spectrum licence; and
- the development of a minimum contiguous bandwidth for spectrum licences in the 26 GHz band.

The ACMA developed papers which outlined its proposed approach to the spectrum licensing framework for the 26 GHz band. These papers were made available by the ACMA to the TLG members for comment. These papers can be found on the ACMA's website. The ACMA had regard to the views expressed by the TLG members when preparing the instrument.

A draft version of the instrument was released for public consultation on 9 July 2020, together with the consultation paper *26 GHz band spectrum licence technical framework*. Consultation closed on 10 August 2020.

The ACMA consultation sought stakeholder views on the proposed spectrum licence technical framework. The ACMA received 11 written submissions in response to this consultation paper, 2 of which provided comment in relation to the instrument.

Issues raised included modifying the receiver parameters to provide a closer alignment with services expected to be deployed under a 26 GHz spectrum licence, and concerns about certain apparatus and class licensed transmitters being given precedence over spectrum licensed receivers when dealing with interference matters. The ACMA considered this feedback and made changes to the instrument in relation to the minimum wanted signal level and the wanted to unwanted ratio specified in Schedule 2 to the instrument.

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 proposed regulatory change is minor or machinery in nature – OBPR reference number 24947.

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.

Overview of the instrument

Section 262 of the Act permits the ACMA to make advisory guidelines about any aspect of radiocommunication or radio emissions. The purpose of the instrument is to provide recommendations

on the management and settlement of interference to radiocommunications receivers operating under spectrum licences in the 26 GHz band and caused by radiocommunications transmitters operating under other licences.

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.

Attachment A

Notes to the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 26 GHz Band) 2020*

Part 1–Preliminary

Section 1 Name

This section provides for the instrument to be cited as the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 26 GHz Band) 2020*.

Section 2 Commencement

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

The Federal Register of Legislation may be accessed free of charge at www.legislation.gov.au.

Section 3 Authority

This section identifies the provision of the Act that authorises the making of the instrument, namely section 262 of the *Radiocommunications Act 1992* (**the Act**).

Section 4 Definitions

This section defines a number of key terms used throughout the instrument.

A number of other expressions used in the instrument are defined in the Act and in the *Radiocommunications (Unacceptable Levels of Interference – 26 GHz Band) Determination 2020* (**section 145 determination**).

Section 5 References to other instruments

This section provides that in the instrument, unless the contrary intention appears:

- a reference to any other legislative instrument is a reference to that other legislative instrument as in force from time to time; and
- a reference to any other kind of instrument or writing is a reference to that other instrument or writing as in force from time to time or existing from time to time.

Part 2–Overview

Section 6 Background

This section provides general information and guidance about interference issues that may occur between adjacent spectrum licences and how the ACMA manages interference.

Section 7 Purpose

This section outlines the purpose of the instrument, which is to assist in the management of interference by providing compatibility requirements for registered fixed receivers operating under spectrum licences issued in the 26 GHz band. The compatibility requirements aim to assist operators of spectrum-licensed services, class licensed services and apparatus-licensed services to plan their

services in order to manage interference, or resolve interference issues, which may be caused by transmitters operated under other licences.

This section explains that the ACMA, in the absence of separate criteria being agreed between affected licensees, will take the instrument into account in determining whether interference has occurred to a radiocommunications receiver operating under a 26 GHz band spectrum licence from a radiocommunications transmitter operating under another licence.

Part 3–Managing interference from other services

Section 8 In-band interference

This section explains the methods through which in-band interference to a radiocommunications receiver operated under a spectrum licence in the 26 GHz band caused by spectrum, apparatus and class licensed transmitters is managed.

If interference is from an adjacent spectrum licensed transmitter, it is managed, in the absence of other arrangements agreed between the affected licensees, through the core conditions of the licence, the device boundary criteria of the section 145 determination and any synchronisation requirement set out in the spectrum licences.

If interference is caused by an apparatus-licensed transmitter, except a transmitter operated under an area-wide apparatus licence, issued after the date the *Radiocommunications Spectrum Marketing Plan (26 GHz Band) 2020* (the Marketing Plan) commences, it is managed as if the transmitter is operated under a spectrum licence. This means that the device boundary criterion that applies to spectrum-licensed radiocommunications transmitters applies to those apparatus licensed radiocommunications transmitters.

If interference is caused by a transmitter operated under an area-wide apparatus licence, it is managed as if the transmitter is operated under a spectrum licence. This means that the same device boundary criterion and synchronisation requirement that applies to spectrum-licensed radiocommunications transmitters applies to those apparatus licensed radiocommunications transmitters. However, earth stations authorised by an area-wide apparatus licence are not required to comply with the synchronisation requirement.

The section also indicates that the ACMA will not regard in-band interference to a radiocommunications receiver operating under a spectrum licence caused by a transmitter operating under the *Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018* as unacceptable.

Section 9 Out-of-band interference

This section explains what constitutes out-of-band interference to a radiocommunications receiver operated under a spectrum licence, and how it can be managed through compatibility requirements for receivers.

Out-of-band interference can occur when radiocommunications transmitters are operated near each other, whether in frequency or distance. It may consist of intermodulation products, harmonic signals, parasitic signals or other spurious signals generated at site or arriving at the radiocommunications receiver.

Out-of-band interference may extend for significant frequency separations on either side of a spectrum licence and its severity may depend on the quality of the radiocommunications receiver. For these reasons, out-of-band interference is managed through interference management procedures based on a compatibility requirement for radiocommunications receivers. A minimum level of receiver performance is specified in conjunction with a compatibility requirement for co-ordination with other licensed services. The use of a performance standard for spectrum-licensed radiocommunications receivers ensures that the burden of mitigating interference is not solely placed on the operator of the radiocommunications transmitter.

Section 10 Recording radiocommunications receiver details in the Register

This section explains that a receiver will not be afforded protection unless the details of the receiver are included in the Register of Radiocommunications Licences (**Register**). In order to meet the compatibility requirement in Part 5 of the instrument, a fixed radiocommunications receiver operated under a 26 GHz band spectrum licence must have its details included in the Register before the date that the radiocommunications transmitter with which compatibility is sought has its details recorded in the Register.

Section 11 Mobile and nomadic devices

This section explains that the compatibility requirements are not applicable to mobile or nomadic devices.

Part 4–Minimum level of receiver performance

Section 12 Notional receiver performance

This section explains why a notional receiver performance level is needed. The level of interference experienced by a receiver is in part dependent on the quality of the receiver itself. Emissions from a transmitter should not have to be reduced below a point where the performance of the receiver is the main cause of the problem. As a result, it is necessary to establish a benchmark performance level for radiocommunications receivers.

The benchmark performance level is set out in Schedule 1 to the instrument.

This section also provides that a receiver will need to meet this benchmark in order to receive protection from interference.

Part 5–Compatibility requirement

Section 13 Compatibility

This section sets out the general requirements to be met for a fixed radiocommunications receiver operated under a spectrum licence in the 26 GHz band to receive protection from interference. Such a fixed radiocommunications receiver must:

- have at least the notional level of receiver performance set out in Schedule 1;
- meet the compatibility requirement of the minimum wanted signal level set out in Schedule 2; and
- be included in the Register before the transmitter with which compatibility is sought was recorded in the Register.

Unless alternative arrangements are negotiated and agreed to between licensees, if a 26 GHz band spectrum licensee claims there is interference to a radiocommunications receiver operated under its 26 GHz band spectrum licence from one or more radiocommunications transmitters operating under another 26 GHz band spectrum licence, all relevant 26 GHz band spectrum licensees are required to synchronise their services as specified in any synchronisation requirement condition included in their spectrum licence. The sample licence in the *Radiocommunications Spectrum Marketing Plan (26 GHz Band) 2020* includes a synchronisation requirement.

The interference management framework for radiocommunications devices operated under a class licence is contained in the relevant class licence, except for in-band interference to a radiocommunications receiver operating under a spectrum licence caused by a transmitter operating under the *Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018*.

Schedule 1 Notional receiver performance level

This Schedule provides spectrum licensees with information regarding the notional performance of receivers operating under a spectrum licence in the 26 GHz band. The Schedule provides information relating to:

- receiver adjacent channel selectivity;
- receiver intermodulation response rejection;
- receiver blocking; and
- receiver antenna and feeder losses.

Spectrum-licensed radiocommunications receivers operating in the 26 GHz band should meet this performance level in order to minimise interference from transmitters operating under other types of licences.

Schedule 2 Compatibility requirement

This section outlines the minimum level of wanted signal that a receiver should meet to receive protection from interference under Part 5.