



## **Radiocommunications (Unacceptable Levels of Interference – 1800 MHz Band) Amendment Determination 2021 (No. 1)**

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The Australian Communications and Media Authority makes the following determination under subsection 145(4) of the *Radiocommunications Act 1992*.

Dated: 16 December 2021

Chris Jose  
[signed]  
Member

Linda Caruso  
[signed]  
~~Member~~/General Manager

Australian Communications and Media Authority

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## **1 Name**

This is the *Radiocommunications (Unacceptable Levels of Interference – 1800 MHz Band) Amendment Determination 2021 (No. 1)*.

## **2 Commencement**

This instrument commences at the start of the day after the day it is registered on the Federal Register of Legislation.

*Note* The Federal Register of Legislation may be accessed, free of charge, at [www.legislation.gov.au](http://www.legislation.gov.au).

## **3 Authority**

This instrument is made under subsection 145(4) of the *Radiocommunications Act 1992*.

## **4 Amendments**

The instrument that is specified in Schedule 1 is amended as set out in the applicable items in that Schedule.

## Schedule 1—Amendments

### *Radiocommunications (Unacceptable Levels of Interference – 1800 MHz Band) Determination 2012 (F2012L02045)*

#### 1 Subsection 5(1)

Insert:

*active antenna system* or *AAS* means a base station antenna system where the amplitude and/or phase between antenna elements is continually adjusted, resulting in an antenna pattern that varies in response to short term changes in the radio environment.

*Australian territorial sea baseline* means the baseline from which the breadth of the territorial sea, or any part of the territorial sea, is to be measured under section 7 of the *Seas and Submerged Lands Act 1973*.

#### 2 Subsection 5(1), definitions of *DEM-3S* and *DEM-3S cell*

Repeal the definitions, substitute:

*DEM-3S* means the dataset:

- (a) with the citation “Gallant, J., Wilson, N., Tickle, P.K., Dowling, T., Read, A. 2009. 3 Second SRTM Derived Digital Elevation Model (DEM) Version 1.0. Record 1.0. Geoscience Australia, Canberra”; and
- (b) given the persistent identifier <http://pid.geoscience.gov.au/dataset/ga/69888>; containing modelled terrain height information for Australia, published by Geoscience Australia.

*Note* Copies of DEM-3S can be obtained, free of charge, using the persistent identifier. More information about DEM-3S can be obtained from the Geoscience Australia website: [www.ga.gov.au](http://www.ga.gov.au).

*DEM-3S cell* means an individual height element of the DEM-3S.

#### 3 After section 5

Insert:

##### 5A References to other instruments

In this Determination, unless the contrary intention appears:

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

*Note 1* For references to Commonwealth Acts, see section 10 of the *Acts Interpretation Act 1901*; and see also subsection 13(1) of the *Legislation Act 2003* for the application of the *Acts Interpretation Act 1901* to legislative instruments.

*Note 2* All Commonwealth Acts and legislative instruments are registered on the Federal Register of Legislation.

*Note 3* See section 314A of the Act.

#### 4 Section 9

Repeal the section, substitute:

#### 9 Unacceptable level of interference

- (1) A level of interference caused by a radiocommunications transmitter operated under a spectrum licence issued for the 1800 MHz band is unacceptable if:
- (a) the operation of the transmitter in the 1800 MHz band results in a breach of a core condition of the licence relating to the maximum permitted level of radio emission from the transmitter:
    - (i) outside the parts of the spectrum the use of which is authorised under the licence; or
    - (ii) outside the geographic area of the licence; or
  - (b) subject to subsection (2), any part of the device boundary of the transmitter lies outside of the geographic area of the licence; or
  - (c) the device boundary of the transmitter cannot be calculated in accordance with Part 1 of Schedule 2; or
  - (d) the transmitter:
    - (i) operates in the 1800 MHz Lower band; and
    - (ii) has an antenna with an effective antenna height for any radial  $n$ ,  $he_1(\phi_n)$  greater than 10 metres; and
    - (iii) operates within an area of high mobile use specified in Schedule 4; or
  - (e) the transmitter:
    - (i) operates in the 1800 MHz Lower band; and
    - (ii) has an antenna with an effective antenna height for any radial  $n$ ,  $he_1(\phi_n)$  greater than 10 metres; and
    - (iii) has an occupied bandwidth with lower or upper frequency limits that is less than 10 MHz from a frequency adjacent spectrum licence in the same area; or
  - (f) any part of the additional device boundary of the transmitter lies outside of the geographic area of the licence and the transmitter:
    - (i) operates in the 1800 MHz Lower band; and
    - (ii) has an antenna with an effective antenna height for any radial  $n$ ,  $he_1(\phi_n)$  greater than 10 metres; and
    - (iii) operates outside an area of high mobile use specified in Schedule 4.
- (2) A level of interference mentioned in paragraph (1)(b) is not unacceptable in relation to a part of the device boundary of the transmitter that:
- (a) lies outside the geographic area of the licence; and
  - (b) is connected to a radial that:
    - (i) is mentioned in Part 1 of Schedule 2; and
    - (ii) does not cross over land outside the geographical area of the licence that is permanently above the Australian territorial sea baseline, and
    - (iii) does not cross into any of the following HCIS identifiers: IW3E, IW3I, IW3M, IW6A, IW6E, KX9, LX7, LX8, LX9.

*Note* In subparagraph (2)(b)(iii), the HCIS identifiers beginning with IW cover an area near Adelaide, and the HCIS identifiers beginning with KX and LX cover an area in Bass Strait.

- (3) This section does not apply in relation to a radiocommunications transmitter to which section 11 applies.

*Note* Subsection 145(1) of the Act provides that the ACMA may refuse to include in the Register details of a radiocommunications transmitter if the ACMA is satisfied that operation of the transmitter could cause an unacceptable level of interference to the operation of other radiocommunications devices. However, some radiocommunications transmitters are exempt from the requirement to be registered in the Register under their 1800 MHz band spectrum licence – see subsection 69(2) of the Act. Accordingly, these transmitters are not required to meet the device boundary criterion specified in this Determination.

## 5 After section 10

Insert:

### 11 Transition – radiocommunications transmitter registered before commencement of this section

- (1) If a radiocommunications transmitter was included in the Register in relation to a spectrum licence in the 1800 MHz band before the commencement of this section (*relevant transmitter*), this section applies in relation to that transmitter.
- (2) Subject to subsection (3), for the purposes of subsection 145(4) of the Act, a level of interference caused by a relevant transmitter is unacceptable if it would have been unacceptable under this Determination as in force at the time the relevant transmitter was included in the Register.

*Note:* This Determination, and previous versions of this Determination, can be obtained, free of charge, from the Federal Register of Legislation: [www.legislation.gov.au](http://www.legislation.gov.au).

- (3) For the purposes of subsection 145(4) of the Act, if:
- (a) after the commencement of this section, both:
- (i) a detail of a relevant transmitter changes (*relevant change*); and
- (ii) the change to the detail is recorded in the Register; and
- (b) the distance of the new device boundary of the relevant transmitter is, on each radial mentioned in Part 1 of Schedule 2, equal to or less than the distance of the old device boundary of the relevant transmitter on that radial; and
- (c) but for the effect of this subsection, a level of interference caused by the relevant transmitter, immediately after the change time, would be unacceptable;
- the level of interference caused by the relevant transmitter, immediately after the change time, is not unacceptable because of the relevant change.
- (4) In subsection (3):

*change time*, for a relevant transmitter, means the time the relevant change is recorded in the Register.

*new device boundary*, of a relevant transmitter, means the device boundary of the transmitter established immediately after the change time, in accordance with this Determination as in force at the change time.

*old device boundary*, of a relevant transmitter, means the device boundary of the transmitter established immediately before the change time, in accordance with this Determination as in force at the registration time.

*registration time*, for a relevant transmitter, means the time the transmitter was included in the Register.

**6 Schedule 1, heading**

Omit “(subsection 5(1))”, substitute “(subsections 5(1), 7(3) and 8(3), and section 10)”.

**7 Schedule 2, heading**

Omit “(subsection 5(1))”, substitute “(subsections 5(1), 9(1) and 9(2), and section 10)”.

**8 Schedule 2, Part 1, item 1, Step 1**

Omit “500 metre”, substitute “100 metre”.

**9 Schedule 2, Part 1, item 1, Step 1, paragraph (a)**

Omit “80”, substitute “400”.

**10 Schedule 2, Part 1, item 1, Step 2, paragraph (b)**

Omit “80”, substitute “400”.

**11 Schedule 2, Part 1, at the end of item 2**

Insert:

*Note*  $\sigma_n$  is the bearing of the  $n^{\text{th}}$ -degree radial for the group of radiocommunications transmitters.

**12 Schedule 2, Part 2, definition of *LOP***

Repeal the definition, substitute:

*LOP* is the level of protection. For radiocommunications transmitters with AAS, the *LOP* is -107 dBm per 30 kHz. For radiocommunications transmitters without AAS, the *LOP* is -115 dBm per 30 kHz,

**13 Schedule 3, heading**

Omit “(subsection 5(1))”, substitute “(subsection 5(1) and section 10)”.

**14 Schedule 3, Part 1, item 1, paragraph (b)**

Omit “DEM-9S”, substitute “DEM-3S”.

**15 Schedule 3, Part 1, item 1, paragraph (c)**

Omit “DEM-9S”, substitute “DEM-3S cell”.

**16 Schedule 3, Part 1, item 3**

Repeal the item, substitute:

3. If the seconds component of the latitude or longitude of the radiocommunications transmitter as defined in Schedule 1, plus 1.5, has a modulus of zero when divided by 3, then  $h_s$  is the sum of:

- (a)  $h_{gt}$ ; and
- (b) the maximum height of the adjacent DEM-3S cells.

**17 Schedule 3, Part 1, item 3, note to the item**

Repeal the note.

**18 Schedule 3, Part 2, item 1, Step 2**

Omit “DEM-9S”, substitute “DEM-3S”.

**19 Schedule 3, Part 2, item 1, Step 3**

Omit “DEM-9S”, substitute “DEM-3S” (all occurrences).

**20 Schedule 3, Part 2, item 2**

Repeal the item, substitute:

2. If the second component of  $(l_{mn}, L_{mn})$ , plus 1.5, has a modulus of zero when divided by 3, then the corresponding DEM-3S cell, for the purposes of Step 2 in item 1, is the adjacent DEM-3S cell with the minimum height.

**21 Schedule 3, Part 2, item 2, note to the item**

Repeal the note.

**22 Schedule 3, Part 2, item 2, Diagram 2**

Omit “m=1000 m”, substitute “m=200 m”.

**23 Schedule 3, Part 2, item 2, Diagram 2**

Omit “m=500 m”, substitute “m=100 m”.

**24 Schedule 3, Part 3, item 1, definition of  $l_t$**

Omit “(decimal degrees)”, substitute “(decimal radians)”.

**25 Schedule 3, Part 3, item 1, definition of  $L_t$**

Omit “(decimal degrees)”, substitute “(decimal radians)”.

**26 Schedule 3, Part 3, item 1, definition of  $\alpha$**

Omit “(decimal degrees)”, substitute “(decimal radians)”.

**27 Schedule 3, Part 3, item 1**

After the definition of  $U_1$  insert:

$$\phi_1 = \arctan(\tan(U_1) / \cos(\alpha))$$

**28 Schedule 3, Part 3, item 2, equation of  $\phi_m$**

Repeal the equation, substitute:

$$\phi_m = \frac{2 \times \phi_1 + \phi}{2}$$

**29 Schedule 4, heading**

Omit “(subsection 5(1))”, substitute “(subsections 5(1) and 9(1))”.