

Radiocommunications Licence Conditions (Area-Wide Licence) Determination 2020

Radiocommunications Act 1992

The AUSTRALIAN COMMUNICATIONS AND MEDIA AUTHORITY makes this Determination under paragraph 107(1)(f) of the *Radiocommunications Act 1992*.

Dated: 28 January 2020

Nerida O’Loughlin  
[signed]  
Member

Creina Chapman  
[signed]  
Member/~~General Manager~~

1. Name of Determination

This Determination is the *Radiocommunications Licence Conditions (Area-Wide Licence) Determination 2020*.

1. Commencement

This Determination commences at the start of the day after 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).

1. Authority

This Determination is made under paragraph 107(1)(f) of the *Radiocommunications Act 1992.*

1. Scope
   1. This Determination sets out a condition to which an area-wide licence is subject.
   2. However, if the condition in this Determination is inconsistent with a condition specified in the licence, the condition specified in the licence applies.
2. Interpretation

In this Determination, unless the contrary intention appears:

***Act*** means the *Radiocommunications Act 1992*.

***area subject to additional conditions*** means an area detailed in Schedule 1 of the Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 26 GHz Band) 2020.

***base station*** means a radiocommunications device which supplies a service to one or more other stations.

***indoor transmitter*** means a transmitter located in an enclosed space where the power flux density from the transmitter measured 2 metres from the outside surface of the enclosed space is less than or equal to:

(a) -9 dBW/m² per occupied bandwidth for transmitters operating in the frequency range:

(i) 27-27.5 GHz and located inside an area subject to additional conditions; or

(ii) 27.5-29.5 GHz; or

(b) -7 dBW/m² per occupied bandwidth for transmitters operating in the frequency range:

(i) 24.7-27 GHz; or

(ii) 27-27.5 GHz and located outside an area subject to additional conditions.

***licensee*** means:

(a) the holder of an area-wide licence; or

(b) a person authorised by the holder of an area-wide licence to operate a station under the licence.

***managing interference*** includes, but is not limited to:

(a) investigating the possible causes of the interference;

(b) taking all steps reasonably necessary to resolve disputes about interference;

(c) taking steps (or requiring persons authorised to operate devices under this licence to take steps) reasonably likely to reduce interference to acceptable levels; and

(d) negotiating with other persons to reduce interference to acceptable levels.

***occupied bandwidth***, is relation to a radiocommunications transmitter, means the width of a frequency band having upper and lower limits that are necessary to contain 99% of the true mean power of the transmitter’s emission at any time.

***RALI[new]*** means the Radiocommunications Assignment and Licensing Instruction No. [new], *[insert title]*, published by the ACMA, as existing from time to time.

Note: RALI[new] is available on the ACMA website at <http://www.acma.gov.au>

***total radiated power*** or ***TRP*** is defined as the integral of the power transmitted in different directions over the entire radiation sphere. It is measured considering the combination of all radiating elements on an antenna panel or individual device.

***uplink-downlink configuration*** means the uplink-downlink configuration that is consistent with the uplink-downlink configuration as referred to in section 3.3 of RALI[new].

***user equipment station*** means a radiocommunications device which is not a base station

Note 1:  In accordance with paragraph 13(1)(b) of the *Legislation Act 2003*, other expressions in this Determination have the same meaning as in the Act, including:

* + - frequency band
    - radiocommunications device
    - radiocommunications transmitter
    - Register.

Note 2:  In accordance with section 64 of the *Australian Communications and Media Authority Act 2005*, other expressions in this Determination have the same meaning as in the *Radiocommunications (Interpretation) Determination 2015*, including:

* area-wide licence
* area-wide station
* mobile station.

1. Condition

For paragraph 107(1)(f) of the Act:

(1) every area-wide licence is subject to the condition in section 7;

(2) every area-wide licence which authorises the operation of radiocommunications devices in the frequency range 24.7 GHz to 29.5 GHz is subject to the conditions in Schedule 1.

1. Location of area-wide stations

(1) Subject to subsection (3), the ACMA or any other person may request, in writing, from a licensee the following information:

(a) the location of all area-wide stations operated under the licence on the day the request is made;

(b) the maximum total radiated power for each such area-wide station.

(2) The licensee must provide the information within ten business days of receiving the request.

(3)   The licensee need not provide the information if:

(a) the information is about an area-wide station that is a mobile station; or

(b) the information is included in the Register.

Note:  The information may be included in the Register if the licence is subject to a condition of the kind referred to in subsection 10(5A), 10(6A) or 10(7A) of the *Radiocommunications (Register of Radiocommunications Licences) Determination 2017.*

**Schedule 1        Conditions for radiocommunications devices in the frequency range 24.7 GHz to 29.5 GHz**

Maximum total radiated power

(1) The licensee must not operate a radiocommunications transmitter with a total radiated power greater than 37 dBm/200MHz.

Operating at fixed locations

(2) The licensee must not operate a radiocommunications transmitter in the frequency range 27.5-29.5 GHz while it is in motion on land, on water or in the air.

Recording devices in the Register

(3) Subject to subsection (4) of this schedule, a licensee must not operate a radiocommunications transmitter under this licence unless;

(a) the requirements under Part 3.5 of the Act relating to registration of the transmitter have been met; and

(b) the transmitter complies with the details about it that have been entered in the Register.

(4) Subsection (3) of this schedule does not apply to the following kinds of radiocommunications transmitters:

(a) a transmitter that operates with a maximum total radiated power of less than or equal to 23 dBm per occupied bandwidth;

(b) an indoor transmitter; or

(c) a fixed transmitter which:

(i) is a user equipment station; and

(ii) operates with a maximum total radiated power of greater than 23 dBm per occupied bandwidth and less than or equal to 35 dBm per occupied bandwidth.

Synchronisation requirement

(5) If:

(a) interference occurs between:

(i) a radiocommunications device (the ***first device***) operated under this licence; and

(ii) a radiocommunications device (the ***other device***) operated under another area-wide licence in the frequency range 24.7 GHz to 29.5 GHz or a 26 GHz band spectrum licence (the ***other licence***);

(b) the level of interference to the first device or to any other device exceeds the compatibility requirement set out in the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 26 GHz Band) 2020,* as in force from time to time;

(c) either the licensee or the holder (or authorised third party) of the other licence wishes to resolve the interference; and

(d) no agreement between the licensee and each person operating one or more other devices can be reached on how to manage the interference;

then the licensee is required to manage the interference by:

(e) either:

(i) operating the first device with the uplink-down link configuration that is defined in RALI[new]; or

(ii) operating the first device using a sequence and duration of radio emissions that is consistent with those configurations (disregarding any time at which the device is not making a radio emission); and

(f) synchronising the timing of the frame structure or other sequence of radio emissions of the first device with the timing of the frame structure or other sequence of radio emissions of each of the other devices (disregarding any device at a time at which the device is not making a radio emission).

Note: The synchronisation requirement only applies when an interference issue occurs and where there is no other measure agreed to between the licensees to resolve the interference. This means synchronisation can be done on a site/cell specific basis. During any period in which the licensee and other licensee are taking steps to resolve the interference issue or synchronise, the ACMA will generally give priority to the device registered first in time in any interference dispute, meaning that the device or devices registered later-in-time will generally be required to accept any interference or cease causing interference during this time.

Co-sited devices

(6) If:

(a) interference occurs between a radiocommunication device:

(i) operated under this licence; and

(ii) operated under another licence (the ***other licence***);

when the measured separation between the phase centre of the antenna used with each device is less than 200 metres; and

(b) that interference is not the result of operation of a radiocommunications device in a manner that does not comply with the conditions of the relevant licence; and

(c) either the licensee or the holder (or authorised third party) of the other licence wishes to resolve the interference;

the licensee of this licence must manage interference with:

(d) the holder of the other licence; or

(e) if a site manager is responsible for managing interference at that location, that site manager.

Responsibility to manage interference

(7) The licensee must manage interference between:

(a) radiocommunications devices operated under this licence; and

(b) radiocommunications devices operated under this licence and under another licence held by the licensee.

Harmful interference

(8) The licensee must ensure that the operation of a radiocommunications transmitter that is a kind included in subsection (4) of this schedule does not cause harmful interference to other radiocommunications devices operated under a different spectrum or apparatus licence.

Co-existence with fixed satellite service gateway uplinks

(9) A radiocommunications transmitter operated under this licence that is:

(a) is a user equipment station

(b) is directing its antenna beam to an elevation angle greater than or equal to 11 degrees above the horizontal plane;

(c) is a fixed transmitter;

(d) is not an indoor transmitter;

(e) operates in either:

(i) the frequency range 27-27.5 GHz and is located inside an area subject to additional conditions specified in Schedule 1 of the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 26 GHz Band) 2020,* as in force from time to time; or

(ii) the frequency range 27.5-29.5 GHz.

Must not:

(g) direct its antenna beam to within:

(i) 1.5 degrees of the geostationary orbit if it is connected to an antenna with a gain of greater than or equal to 34.7 dBi; or

(ii) 25 degrees of the geostationary orbit if it is connected to an antenna with a gain of less than 34.7 dBi

(10) A radiocommunications transmitter operated under this licence which is a base station must not:

(a) be connected to an antenna which has its highest gain directed above the horizontal plane when the antenna is not being electrically steered; or

(b) direct its antenna beam via electrical steering to an elevation angle greater than 5 degrees above the horizontal plane for more than 5 percent of time in any 24 hours period.

If:

(c) it is not an indoor transmitter; and

(d) operates in the frequency range 27-27.5 GHz and it is located inside an area subject to additional conditions specified in Schedule 4 of the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 26 GHz Band) 2020*, as in force from time to time.

(11) A radiocommunications transmitter operated under this licence which is a base station must not:

(a) be connected to an antenna which has its highest gain directed above the horizontal plane when the antenna is not being electrically steered; or

(b) direct its antenna beam via electrical steering to an elevation angle above the horizontal plane.

If:

(c) it is not an indoor transmitter; and

(d) operates in the frequency range 27.5-29.5 GHz.

(12) A radiocommunications transmitter operated under this licence must not operate with a total radiated power exceeding 25 dBm/200 MHz

If:

(a) it is not an indoor transmitter; and

(b) operates:

(i) in the frequency range 27-27.5 GHz and it is located inside an area subject to additional conditions specified in Schedule 4 of the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 26 GHz Band) 2020*, as in force from time to time; or

(ii) in the frequency range 27.5-29.5 GHz

Co-existence with space research earth stations

(12) The licensee must not operate a radiocommunications transmitter in the frequency range 25.5-27 GHz if it is located in any of the following HCIS: BU7K, BU7L, BU7O, BU7P, BU8E, BU8F, BU8G, BU8I, BU8J, BU8K, BU8L, BU8M, BU8N, BU8O, BU8P, BV2A, BV2B, MW4H1, MW4H2, MW4H4, MW4H5, MW4H6, MW4H7, MW4H8, MW4D7, MW4L2.

(13) Before the licensee operates a radiocommunications transmitter which operates in the frequency range 25.5-27 GHz and is a kind of transmitter detailed in subsection 4(c) of this Schedule, it must be coordinated with existing space research earth stations in accordance with the provisions detailed in RALI[new].

Co-existence with body scanners

(14) A radiocommunications transmitter operated under this licence must not cause harmful interference to a device operated under the *Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018*, as in force from time to time.

Note:  A radiocommunications receiver operated under this licence is not afforded protection from interference by a device operated under the Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018, as in force from time to time.

Record keeping – high-powered outdoor user equipment stations

(15) If the licensee operates a radiocommunications transmitter which is a kind detailed in subsection 4(c) of this Schedule, the licensee must:

(a) in relation to each transmitter, the licensee must keep a record which includes the following information:

(i) the transmitter’s geographic location;

(ii) the transmitter’s centre frequency;

(ii) the transmitter’s emission designator;

(iv) details of the transmitter’s antenna including the manufacturer, model, type, gain, polarisation, azimuth, elevation angle above the horizontal plane and height above ground;

(v) the transmitter’s maximum true mean power; and

(vi) the transmitter’s maximum EIRP.

(b) if the ACMA requests a copy of a record kept under subsection 15(a), the licensee must comply with the request as soon as practicable.

Unwanted emissions

(16) The licensee must not operate a radiocommunications transmitter that is base station if its unwanted emissions exceed the limits in subsections (18), (19), (20) and (21).

(17) The licensee must not operate a radiocommunications transmitter that is a user equipment station if its unwanted emissions exceed the limits in subsections (22), (23), (24) and (25).

(18) The unwanted emission limits in Table 1 apply:

(a) at the frequencies outside the upper or lower frequency limits set out on the licence;

(b) offset from the upper and lower frequency limits set out on the licence; and

(c) outside the frequency range 23.6 GHz to 24 GHz

where:

BWoccupied: is the occupied bandwidth of the radiocommunications transmitter operated under this licence

Foffset: is the frequency offset from the upper or lower frequency limit on the licence. The closest -3dB point of the specified bandwidth to the upper and lower frequency limits of the licence is placed at foffset.

|  |  |  |
| --- | --- | --- |
| **Frequency range**  **(foffset)** | **Total radiated power**  **(dBm)** | **Specified Bandwidth** |
| 0 MHz ≤ foffset ≤ 0.1 x BWoccupied | -5 | 1 MHz |

**Table 1: Radiocommunications transmitter unwanted emission limits for base stations**

(19) The unwanted emission limits in Table 2 apply at frequencies inside the 23.6 GHz to 24 GHz frequency range for radiocommunications transmitters first operated under this licence before 1 September 2027, measured over the specified bandwidth for the relevant frequency range.

(20) The unwanted emission limits in Table 3 apply at frequencies inside the 23.6 GHz to 24 GHz frequency range for radiocommunications transmitters first operated under this licence on or after 1 September 2027, measured over the specified bandwidth for the relevant frequency range.

|  |  |  |
| --- | --- | --- |
| **Transmitter operating frequency range (f)** | **Total radiated power**  **(dBm)** | **Specified Bandwidth** |
| 24.7 GHz ≤ f < 27.5 GHz | -3 | 200 MHz |
| 27.5 GHz ≤ f ≤ 29.5 GHz | -13 | 1 MHz |

**Table 2: Radiocommunications transmitter unwanted emission limits inside the 23.6 GHz to 24 GHz frequency range for base stations**

|  |  |  |
| --- | --- | --- |
| **Transmitter operating frequency range (f)** | **Total radiated power**  **(dBm)** | **Specified Bandwidth** |
| 24.7 GHz ≤ f < 27.5 GHz | -9 | 200 MHz |
| 27.5 GHz ≤ f ≤ 29.5 GHz | -13 | 1 MHz |

**Table 3: Radiocommunications transmitter unwanted emission limits inside the 23.6 GHz to 24 GHz frequency range for base stations**

(21) The unwanted emission limits in Table 4 apply:

(a) at frequencies greater than 0.1 x BWoccupied offset from the upper or lower frequency limits set out on the licence; and

(b) outside the frequency range 23.6 GHz to 24 GHz,

measured over the specified bandwidth for the relevant frequency range.

Where:

BWoccupied: is the occupied bandwidth of the radiocommunications transmitter operated under this licence

|  |  |  |
| --- | --- | --- |
| **Frequency range (f)** | **Total radiated power**  **(dBm)** | **Specified Bandwidth** |
| 30 MHz ≤ f < 1 GHz | -13 | 100 kHz |
| 1 GHz ≤ f ≤ 59 GHz | -13 | 1 MHz |

**Table 4: Radiocommunications transmitter unwanted emission limits for base stations**

(22) The unwanted emission limits in Table 5 apply:

(a) at the frequencies outside the upper or lower frequency limits set out on the licence; and

(b) offset from the upper and lower frequency limits set out on the licence; and

where:

Foffset: is the frequency offset from the upper or lower frequency limit on the licence. The closest -3dB point of the specified bandwidth to the upper and lower frequency limits of the licence is placed at foffset.

|  |  |  |
| --- | --- | --- |
| **Frequency range**  **(foffset)** | **Total radiated power**  **(dBm)** | **Specified**  **Bandwidth** |
| 0 MHz ≤ foffset ≤ 40 MHz | -5 | 1 MHz |

**Table 5: Radiocommunications transmitter unwanted emission limits for user equipment stations**

(23) The unwanted emission limits in Table 6 apply:

(a) at frequencies greater than 40 MHz offset from the upper or lower frequency limits set out on the licence; and

(b) outside the frequency range 23.6 GHz to 24 GHz,

measured over the specified bandwidth for the relevant frequency range.

|  |  |  |
| --- | --- | --- |
| **Frequency range**  **(f)** | **Total radiated power**  **(dBm)** | **Specified**  **Bandwidth** |
| 30 MHz ≤ f < 1 GHz | -36 | 100 kHz |
| 1 GHz ≤ f < 12.75 GHz | -30 | 1 MHz |
| 12.75 GHz ≤ f < 23.6 GHz | -13 | 1 MHz |
| 24 GHz ≤ f ≤ 59 GHz | -13 | 1 MHz |

**Table 6: Radiocommunications transmitter unwanted emission limits for user equipment stations**

(24) The unwanted emission limits in Table 7 apply at frequencies inside the 23.6 GHz to 24 GHz frequency range, for radiocommunications transmitters first operated under this licence before 1 September 2027, measured over the specified bandwidth.

(25) The unwanted emission limits in Table 8 apply at frequencies inside the 23.6 GHz to 24 GHz frequency range for radiocommunications transmitters first operated under this licence on or after 1 September 2027, measured over the specified bandwidth for the relevant frequency range.

|  |  |  |
| --- | --- | --- |
| **Transmitter operating frequency range (f)** | **Total radiated power**  **(dBm)** | **Specified Bandwidth** |
| 24.7 GHz ≤ f < 27.5 GHz | 1 | 200 MHz |
| 27.5 GHz ≤ f ≤ 29.5 GHz | -13 | 1 MHz |

**Table 7: Radiocommunications transmitter unwanted emission limits inside the 23.6 GHz to 24 GHz frequency range for user equipment stations**

|  |  |  |
| --- | --- | --- |
| **Transmitter operating frequency range (f)** | **Total radiated power**  **(dBm)** | **Specified Bandwidth** |
| 24.7 GHz ≤ f < 27.5 GHz | -3 | 200 MHz |
| 27.5 GHz ≤ f ≤ 29.5 GHz | -13 | 1 MHz |

**Table 8: Radiocommunications transmitter unwanted emission limits inside the 23.6 GHz to 24 GHz frequency range for user equipment stations**