



Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band) Variation 2023 (No. 2)

The Australian Communications and Media Authority makes the following instrument under section 262 of the *Radiocommunications Act 1992*.

Dated: 28 September 2023

Samantha Yorke
[signed]
Member

Brendan Byrne
[signed]
~~Member~~/General Manager

Australian Communications and Media Authority

1 Name

This is the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band) Variation 2023 (No. 2)*.

2 Commencement

This instrument commences on the 30th 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.

3 Authority

This instrument is made under section 262 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 Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band) 2015 (F2015L00728)

1 After subsection 1.5(3)

Insert:

Note The following terms that are used in these guidelines are defined in the *Radiocommunications (Interpretation) Determination 2015*:

- area-wide receive licence
- earth receive licence
- earth receive station.

2 Section 4.2 (heading)

Repeal the heading, substitute:

4.2 Protection requirements – FSS Earth receive stations operating in the 3400-3600 MHz band under earth receive licences

3 Section 4.3 (heading)

Repeal the heading, substitute:

4.3 Protection requirements – FSS Earth receive stations operating in the 3600-4200 MHz band under earth receive licences

4 Paragraph 4.3(1)(a)

Repeal the paragraph, substitute:

- (a) is operated under an earth receive licence;

5 Subsection 4.3(4)

Omit “The minimum RF filtering level”, substitute “Before 16 July 2027, the minimum RF filtering level”.

6 Subsection 4.3(4)

Before the table, insert:

On and after 16 July 2027, the minimum RF filtering level described in Table 2 should be assumed.

7 Subsection 4.3(4) (Table 1 title)

Repeal the title, substitute:

Table 1: Minimum frequency response of earth receive station’s RF filter before 16 July 2027

8 Subsection 4.3(4) (after Table 1)

Insert:

Frequency offset from appropriate frequency limit of licence for earth station receiver (MHz)	Rejection (dB)
<15	$0.5 + 0.6 \cdot f_{\text{offset}} \text{ (MHz)}$
<20	30
< 100	60
≥ 100	70

Table 2: Minimum frequency response of earth receive station's RF filter on or after 16 July 2027**9 Subsection 4.3(4A)**

After "For the purposes of Table 1", insert "and Table 2".

10 Subsection 4.3(5) (third dot point)

After "Table 1", insert "or Table 2 (as appropriate)".

11 Section 4.4 (heading)

Repeal the heading, substitute:

4.4 Additional protection requirements – incumbent FSS Earth receive stations operating in the 3600-3800 MHz band under earth receive licences

12 Subsection 4.4(1)

After "3600-3800 MHz band", insert "under an earth receive licence".

13 After section 4.4

Insert:

4.5 Protection requirements – FSS Earth receive stations operating in the 3750-4000 MHz band under area-wide receive licences

- (1) Radiocommunications transmitters operated under a spectrum licence in the 3.4 GHz band must protect earth receive stations from receiver overload, if the radiocommunications receiver for the earth receive station:
 - (a) was included in the Register, in relation to an area-wide receive licence, before the date on which the radiocommunications transmitter operated under the spectrum licence is registered; and
 - (b) is operated in accordance with that area-wide receive licence; and
 - (c) is located within 100 km of the radiocommunications transmitter.
- (2) A radiocommunications transmitter operated under a spectrum licence in the 3.4 GHz band is not considered to overload the receiver of an earth receive station mentioned in subsection (1) if the total power received from the transmitter at the input of the earth receive station (after considering antenna gain, radiofrequency filtering and other losses) does not exceed a total of -65 dBm. The minimum radiofrequency filtering level described in Table 3, at the front end of the earth receive station for different frequency offsets, is assumed to apply at each lower limit for a licence and upper limit for a licence.

Frequency offset from lower or upper limit of licence for receiver of earth receive station (MHz)	Rejection (dB)
< 80	60
≥ 80	70

Table 3: Minimum frequency response of earth receive station's radiofrequency filter under an area-wide receive licence

(3) In subsection (2):

lower limit for a licence means, in relation to the geographic area specified in an area-wide receive licence that authorises the operation of an earth receive station, the lowest frequency specified in the licence for the operation of radiocommunications receivers in that geographic area.

upper limit for a licence means, in relation to the geographic area specified in an area-wide receive licence that authorises the operation of an earth receive station, the highest frequency specified in the licence for the operation of radiocommunications receivers in that geographic area.

(4) When assessing interference caused by receiver overload:

- Propagation loss between a radiocommunications transmitter and an earth receive station for a fixed-satellite service should be calculated using Recommendation ITU-R P.452, with $p = 20\%$.

Note 1 The parameter p is defined in Recommendation ITU-R P.452 as the required time percentage for which the calculated basic transmission is not exceeded.

Note 2 Recommendation ITU-R P.452 is available, free of charge, from the website of the International Telecommunication Union at www.itu.int.

- In the event actual antenna radiation patterns are not available for an earth receive station in a fixed-satellite service, the antenna radiation pattern defined in ITU-R Recommendation S.465 can be assumed.

Note 1 Recommendation ITU-R S.465 is available, free of charge, from the website of the International Telecommunication Union at www.itu.int.

- For coordination occurring before 16 July 2027, the first time a spectrum licensee performs adjacent channel coordination with an earth receive station operating in the 3750 to 4000 MHz band, and before the spectrum licensee registers their relevant radiocommunications device, the spectrum licensee must notify the affected area-wide receive licensee. This is to ensure the area-wide receive licensee has the opportunity to install a radiofrequency filter with the relevant characteristics from Table 3 to the front end of their earth receive station.