Australian Government | acma Australian Communications and Media Authority

Remaking the low interference potential devices class licence

Consultation paper

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Background

Under Part 4 of Chapter 3 of the *Legislation Act 2003*, most legislative instruments are automatically repealed. They 'sunset' on the 1 April or 1 October that first occurs 10 years after the instrument was registered.[1] This is an automatic process applying to most instruments.

The Radiocommunications (Low Interference Potential Devices) Class Licence 2015 (LIPD class licence) will sunset on 1 October 2025, unless remade before that date.

We have the preliminary view that the LIPD class licence is operating effectively and efficiently. It continues to play a necessary role in the radiocommunications regulatory framework – specifically, in relation to the class licensing of radiocommunications devices.

We propose to remake the LIPD class licence in a new instrument with only minor changes prior to the sunset date. We are also proposing to introduce new arrangements into the LIPD class licence to facilitate the use of emerging technologies.

[1] Under subsection 54(2) of the Legislation Act, certain classes of legislative instruments are exempted from sunsetting provisions. The instrument to which this paper relates does not fall within these categories.

What the LIPD class licence does

Under the *Radiocommunications Act 1992* (the Act), the operation of radiocommunications devices within Australia must be authorised by a radiocommunications licence.

A class licence is one type of radiocommunications licence available to authorise the operation of radiocommunications devices. This is an effective and efficient means of spectrum management for services where a limited set of common frequencies is employed, and equipment is operated under a common set of conditions.

A class licence details the conditions under which any person is permitted to operate any device to which the licence applies. It is not issued to an individual user and does not involve the payment of licence taxes or charges. A class licence is issued by the ACMA under section 132 of the Act by making a legislative instrument on the Federal Register of Legislation.

The LIPD class licence authorises the operation of a wide range of generally low-power radiocommunications transmitters in various segments of the radiofrequency spectrum. The licence details the conditions under which many types of short-range devices may operate.

The general framework for all LIPD class-licensed devices involves these elements:

- Transmitters that are authorised do not require individual frequency coordination for interference management.
- The operation of the radiocommunications device must not cause interference to other licensed radiocommunications services.
- Devices will not be afforded protection from interference caused by other licensed radiocommunications devices.
- If interference does occur, it is the responsibility of the users of the radiocommunications devices to take measures to resolve it.

Examples of equipment covered by the LIPD class licence include garage door openers, Bluetooth devices, wireless microphones and wireless local area network devices.

Making a new instrument to replace the LIPD class licence will require changes to a number of instruments. This includes:

- the Radiocommunications Equipment (General) Rules 2021
- some advisory guidelines made under section 262 of the Act
- the Radiocommunications (Exemption – Remotely Piloted Aircraft Disruption) Determination 2022.

We intend to amend these instruments at the same time as making a new class licence. We do not intend to change the operation of any of these instruments.

We may also make related amendments to one or more frequency band plans prepared under section 32 of the Act. This will ensure consistency with the new class licence, if made.

Proposed changes to the licence

Review of existing instrument

We propose to make the following changes to the class licence to improve readability and correct references:

- Creation of separate tables for each category of transmitter and listing limitations under each table to improve the readability of the instrument.
- Updating references to ETSI standards that are outdated or no longer exist, as listed in Table 1.
- Removal of the limitation from item 45 of Schedule 1 to the LIPD class licence (Table 5, item 4 in the proposed new class licence) which required compliance with a standard. The standard that was referred to in that limitation is not freely available.
- Removal of the exceptions listed in limitation (b) for item 65A and limitations (c) and (d) in item 71A of Schedule 1 to the LIPD class licence (Table 8, item 18 and Table 9, item 9 in the proposed new class licence). These provisions have not been utilised throughout the life of the LIPD class licence and are not required.

Table 1: Updated references to ETSI standards

Reference in the LIPD class licence	Proposed new reference	Table header row
EN 300 422	EN 300 422-1	EN 300 422 is a multi-part document. Part 1 is relevant where it is referenced in the LIPD class licence.
EN 301 840	EN 300 422-1	EN 301 840 has been withdrawn. Digital systems were incorporated within EN 300 422 and EN 301 840 is no longer used.
EN 302 065	EN 302 065-1 EN 302 065-2 EN 302 065-4 EN 302 065-5	EN 302 065 is a multi-part document. The relevant part is referenced as appropriate in the LIPD class licence.
EN 302 435	EN 302 065-4	EN 302 435 has been superseded by EN 302 065-4.

New items

In parallel to reviewing the LIPD class licence ahead of it sunsetting, we also propose to introduce arrangements to enable the operation of a range of new radiocommunications devices.

Wireless multi-channel audio system (WMAS) technologies for wireless audio transmitters

WMAS[2] is an emerging technology that offers spectral efficiency improvements for wireless audio devices such as wireless microphones, independent of the band of operation. It operates over broadband access, combining multiple microphone signals into a single transmission to allow more devices in the same amount of spectrum when compared to individual narrowband devices. This is especially useful during large events.

In the consultation paper for a previous update to the LIPD class licence, we asked about potential future variations to facilitate WMAS. In the outcomes paper to that consultation, we committed to giving further consideration to developing regulatory arrangements for WMAS. We propose a new item in the LIPD class licence that authorises wireless audio transmitters in the 520–694 MHz frequency range with the following limitations:

- Maximum EIRP of 100 mW, in line with existing use of wireless audio transmitters in the 520-694 MHz frequency range.
- Transmitters must not be used within the coverage area of a broadcasting service on the same frequency, in line with existing use of wireless audio transmitters in the 520–694 MHz frequency range.[3]
- Transmitters must comply with the requirements in EN 300 422-1, which is the relevant ETSI standard for WMAS.

Following consideration of feedback to the consultation paper for a previous update to the LIPD class licence, we have decided not to include a minimum spectral efficiency limitation. This is on the basis that the definition of WMAS in EN 300 422-1 includes 'the ability to support three or more audio channels per MHz'. We have also decided not to require a WMAS emission to fall entirely within a single TV channel. This is to enable the full benefits of WMAS with use of channel bandwidths up to 20 MHz, noting that transmitters will not be allowed to be used within the coverage area of a broadcasting service on the same frequency.

The entire 520–694 MHz range is proposed to be made available for use by WMAS technologies. The 617–698 MHz band is included in the monitoring stage of band planning activities in the Five-year spectrum outlook (FYSO). As mentioned in the *Draft FYSO 2025–30*, the government proposes to explore options for the future of television broadcasting. This may include considering its future spectrum needs. We do not propose to pre-empt that government consideration in any way by restricting the frequency range for WMAS.

Frequency hopping radiocommunications transmitters in the 5925–6425 MHz band

In the previous LIPD class licence consultation, we proposed to include an entry to allow low-power narrowband frequency-hopping transmitters to operate in the 5925–6425 MHz band. In submissions to the consultation paper, respondents raised concerns with the potential introduction of low-power narrowband frequency-hopping transmitters into the 5925–6425 MHz band, including concerns that arrangements in other countries had not yet been finalised. In response, we undertook to continue to follow regulatory developments and technical studies internationally and revisit this proposal under a future update to the LIPD class licence.

[2] Technical characteristics and parameters for WMAS are described in System Reference document ETSI TR 103 450.
[3] You can use the channel finder for an available channel in an area.

Arrangements for low-power narrowband frequency-hopping transmitters in the 5945–6425 MHz band have now been finalised in Europe, as outlined in ETSI EN 303 687, and in the 5925–6425 MHz band in the United States, as outlined in the Federal Communications Commission (FCC) Rules.[4]

Given the progress internationally, we are again proposing to introduce arrangements for low-power narrowband frequency-hopping transmitters in the 5925–6425 MHz band with the technical characteristics described below and summarised in Table 2.

Maximum EIRP

The mean EIRP limit for output power for very low power (VLP) usage in ETSI EN 303 687 is 14 dBm (equivalent to 25 mW). The FCC Rules allow for a maximum EIRP of 14 dBm.[5] We are proposing a maximum EIRP of 25 mW. This is the same as proposed in October 2022.

Maximum power spectral density (PSD), minimum number of hopping frequencies and maximum bandwidth

The mean EIRP density limit for VLP usage in ETSI EN 303 687 is 10 dBm (equivalent to 10 mW). There are additional clauses for devices operating with a PSD above 1 dBm/MHz, including a requirement of a minimum of 15 hopping frequencies and maximum bandwidth of 20 MHz. The FCC Rules allow for a maximum PSD of -5 dBm (equivalent to 0.316 mW) EIRP in any 1 MHz band.[6] We are proposing to align arrangements with ETSI EN 303 687, as proposed in October 2022.

Out of band emissions below 5925 MHz

ETSI EN 303 687 includes an out of band emission limit of -45 dBm per MHz below 5935 MHz. This is lower than proposed in the consultation paper on the previous update to the LIPD class licence based on the Commission Implementing Decision 2021/1067. We propose to align our arrangements with the ETSI EN 303 687 limit, making them consistent with the finalised European arrangements for these devices.

Table 2: Technical characteristics of frequency hopping radiocommunications transmitters in the 5925–6425 MHz band

	October 2022 proposal	Current proposal
Maximum EIRP	25 mW	25 mW
Maximum power spectral density	10 mW EIRP per MHz	10 mW EIRP per MHz
Minimum number of hopping frequencies	15	15
Maximum emission bandwidth	20 MHz	20 MHz
Out of band emissions below 5925 MHz	-37 dBm EIRP per MHz	-45 dBm EIRP per MHz

[4] Code of Federal Regulations, Title 47, Part 15 (47 CFR Part 15).
[5] 47 CFR 15.407, paragraph (a)(9).
[6] 47 CFR 15.407, paragraph (a)(9).

Digital modulation radiocommunications transmitters in the 5150–5250 MHz band

We propose to broaden the type of devices allowed to operate in the 5150–5250 MHz band to include all digital modulation radiocommunications transmitters. These arrangements are currently limited to radio local area network (RLAN) transmitters. FCC Rules[7] allow for 'client devices' in the 5150–5250 MHz band.

RLAN radiocommunications transmitters in the 6425–6585 MHz band

In *Future use of the upper 6 GHz band – Outcomes paper*, we outlined our decisions related to future arrangements for the upper 6 GHz band (6425–7125 MHz). This included a commitment to include the frequency range 6425–6585 MHz in the LIPD class licence to support RLAN use.

To implement this decision, we propose to increase the upper bound of items 63AA and 63AB in Schedule 1 to the LIPD class licence (Table 8, items 13 and 14 in Schedule 1 to the proposed new class licence) from 6425 MHz to 6585 MHz.

Radiodetermination radiocommunications transmitters in the 13.4–14 GHz band

We propose to introduce arrangements in the 13.4–14 GHz band to facilitate the use of radiodetermination radiocommunications transmitters. ETSI EN 300 440 includes arrangements for radiodetermination devices that are implemented in parts of Europe in the 13.4–14 GHz band. In the United Kingdom, Ofcom has published IR 2030, which includes arrangements for radiodetermination devices.

The 13.4–14 GHz band includes a primary allocation in the Australian Radiofrequency Spectrum Plan 2021 to the radiolocation service with Australian footnote 101A. This states that 'this service is designated to be used principally for the purposes of defence and national security. The Department of Defence is normally consulted in considering non-defence use of this service'.

The 13.75–14 GHz band is also allocated to the fixed-satellite (Earth-to-space) service. There are 54 fixed earth apparatus licences currently issued in this part of the band.[8]

Taking into account current use of the 13.4–14 GHz band and established arrangements for radiodetermination devices in this band internationally, we propose to introduce arrangements in the 13.4–14 GHz band:

- to facilitate the use of radiodetermination radiocommunications transmitters with a maximum EIRP of 25 mW (in line with ETSI EN 300 440)
- with a restriction on the use of the devices onboard aircraft (in line with UK arrangements).

Radiodetermination radiocommunications transmitters in the 76–77 GHz band

The LIPD class licence currently supports the use of radiodetermination radiocommunications transmitters in the 76-77 GHz band across 2 separate items.

The first item (item 69 of Schedule 1 to the LIPD class licence and Table 9, item 6 in Schedule 1 to the proposed new class licence) authorises all radiodetermination radiocommunications transmitters with a maximum EIRP of 25 W.

[7] 47 CFR 15.407, paragraph (a)(1)(iv).
[8] As at 4 February 2024.

The second item (item 69A of Schedule 1 to in the LIPD class licence and Table 9, item 7 in Schedule 1 to the proposed new class licence) authorises the use of radiodetermination radiocommunications transmitters that comply with the requirements in either ETSI EN 301 091-2 or ETSI EN 301 091-3.

These ETSI standards both cover radar equipment operating in the 76 GHz to 77 GHz range, with ETSI EN 301 091-2 related to fixed infrastructure radar equipment and ETSI EN 301 091-3 related to railway/road crossings obstacle detection system applications.

The arrangements set out in the second item were introduced in August 2019. At the time, radiodetermination radiocommunications transmitters that complied with ETSI EN 301 091-1 related to ground-based vehicular radar were not included.

We now propose to authorise radiodetermination radiocommunications transmitters that comply with ETSI EN 301 091-1 in the 76–77 GHz band. This will enable an increase in the maximum EIRP of ground-based vehicular radar from 25 W (44 dBm) to 316 W (55 dBm). This change will bring our arrangements into line with other parts of the world, including Europe and the United States.

Invitation to comment

Making a submission

We invite comments on the issues set out in this consultation paper.

- Online submissions can be made by uploading a document. Submissions in PDF, Microsoft Word or Rich Text Format are preferred.
- Submissions by post can be sent to:

  The Manager
  Spectrum Planning Section
  Australian Communications and Media Authority
  PO Box 78
  Belconnen ACT 2616

The closing date for submissions is **COB, Friday 16 May 2025**.

Consultation enquiries can be emailed to freqplan@acma.gov.au.

Publication of submissions

We publish submissions on our website, including personal information (such as names and contact details), except for information that you have claimed (and we have accepted) is confidential.

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