

EXPLANATORY STATEMENT

Issued by the Authority of the Australian Communications and Media Authority

Radiocommunications (Low Interference Potential Devices) Class Licence Variation 2005 (No.1)

Radiocommunications Act 1992

Legislative Provisions

This instrument is the *Radiocommunications (Low Interference Potential Devices) Class Licence Variation 2005 (No.1)* (the Class Licence Variation) and is made under section 134 of the *Radiocommunications Act 1992* (the Act). Section 134 provides that the Australian Communications and Media Authority (ACMA) may vary a class licence issued under section 132 of the Act. ACMA may only vary a class licence by including further conditions or revoking or varying existing conditions.

ACMA may also only vary a class licence where it has published a written notice in the *Commonwealth of Australia Gazette* (the Gazette) setting out ACMA's intention to vary the licence and inviting interested persons to comment on the proposed variation (under subsection 136(1) of the Act).

A class licence is a legislative instrument for the purposes of the *Legislative Instruments Act 2003*.

Background

It is a requirement of the Act that the operation of all radiocommunications transmitters within Australia be authorised by a radiocommunications licence.

A class licence is issued by ACMA under section 132 of the Act and authorises any person to operate a radiocommunications device, of a specific kind and/or for a specific purpose. Class licensing 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. It also involves minimum licence administration by ACMA. A class licence is not issued to an individual user, and does not involve the payment of licence fees.

Class licences authorise users of designated segments of spectrum to operate on a shared basis. The licences are issued by ACMA by a notice published in the Gazette.

The *Radiocommunications (Low Interference Potential Devices) Class Licence 2000* (the LIPD Class Licence) authorises the operation of a wide range of low power, short-range radiocommunications devices operating in various segments of the radiofrequency spectrum. The LIPD Class Licence sets out the conditions under which many types of low power short-range devices may operate. These conditions cover frequency bands of operation and radiated power limits. Other conditions are applied as necessary.

Purpose

The purpose of the Class Licence Variation is to, among other things, broaden the scope of the licence to new requirements for the operation of some devices and to cover several additional low power, short-range radiocommunications devices that were either covered under another licence or are not yet covered by Australia's licensing regime. In summary, the purpose of varying the LIPD Class Licence is to:

1. *Authorise the operation of medical implant communications systems (MICS) and medical implant telemetry systems (MITS).* The operation of these radiocommunications devices is not currently covered under a licensing regime in Australia. ACMA undertook investigations and sought public comment on how these devices should be licensed. On the basis of this investigatory process ACMA decided that it could authorise the operation of these devices under the LIPD Class Licence on a no-interference and no-protection basis and subject to certain operational limits.
2. *Expand the frequency range already authorised under the LIPD Class Licence for the operation of low power transmitters in the 2.5 GHz band.* The LIPD Class Licence contains several provisions in Schedule 1 setting out various frequency bands in which all low power transmitters may operate. Item 19 is such a provision and has been varied to extend the frequency band in which all low power transmitters utilising a maximum equivalent isotropically radiated power (EIRP) of 10 mW may be operated. The reason for expanding the frequency band is because more spectrum has become available due to replanning of an adjacent frequency band.
3. *Impose additional requirements on the operation of radio local area networks (RLANs) in the 5250-5350 MHz band.* Item 44 of Schedule 1 authorises the operation of RLAN devices in the 5150-5350 MHz band. The Class Licence Variation separates the permitted frequency band in Item 44 into two lesser frequency bands, 5150-5250 MHz and 5250-5350 MHz. The reason for doing this is to impose new requirements on the operation of RLANs in the 5250-5350 MHz band in order to reflect decisions made at the 2003 International Telecommunication Union World Radiocommunication Conference.
4. *Authorise users to operate radiocommunications devices (known as data communications transmitters) in the 60 GHz band.* In December 2004 ACMA's predecessor, the Australian Communications Authority (ACA), completed a technical study that analysed spectrum allocation and sharing issues in the 59.4-62.9 GHz band. The findings of the study led the ACA to conclude that operation of data communications transmitters in the 60 GHz band could be authorised by the LIPD Class Licence to support the development of very wide bandwidth, short range broadband communications.
5. *Authorise users to operate spread spectrum devices (known as frequency hopping transmitters) previously authorised under the Radiocommunications (Spread Spectrum Devices) Class Licence 2002 (the Spread Spectrum Class Licence).* Previously the operation of frequency hopping transmitters was authorised under the Spread Spectrum Class Licence. This created confusion

as other classes of spread spectrum devices were also authorised under the LIPD Class Licence. To remove this uncertainty and duplication the Spread Spectrum Class Licence has been revoked. The Class Licence Variation provides for frequency hopping spread spectrum devices to now be operated on the same frequencies, with the exception of the band 5725-5875 MHz, under the LIPD Class Licence. The frequency band has been reduced by 25 MHz to the lesser band 5725-5850 MHz in the LIPD Class Licence. As there is not any equipment known to be currently supplied in Australia that operates in the previously authorised frequency band the impact of reducing the frequency band is thought to be negligible. Further, the maximum permitted EIRP for these devices operating in the band 5725-5850 MHz has been increased from 1 W to 4 W in line with the current limit in the LIPD Class Licence for digital modulation transmitters currently operating in this same band. This also improves alignment with Rule 15.247 of the Federal Communications Commission of the USA for spread spectrum devices.

Consultation

In accordance with subsection 136(1) of the Act, the ACA published a notice in the Gazette on 25 May 2005 concerning its proposal to vary the LIPD Class Licence. The Gazette invited interested persons to comment on the draft Class Licence Variation and provided one month in which such persons could submit their comments to the ACA.

Nine submissions were received. All submissions broadly supported the proposed variations, but some respondents wanted further changes to the LIPD Class Licence. After consideration of the comments for further change, some minor changes were made to the Class Licence Variation to reflect those comments. In particular:

- the definition of a ‘medical implant event’ has been included;
- the maximum EIRP for MICS transmitters is averaged over the transmission burst within a reference bandwidth of 300 kHz; and
- MICS must have a minimum of nine channels spread across the whole band.

In addition to the formal consultation that took place on the draft Class Licence Variation, many of the proposed changes to the LIPD Class Licence were the subject of extensive public discussion papers. The decision to authorise data communications transmitters in the 60 GHz band was a proposal put forward by equipment vendors themselves.

The Office of Regulation Review (ORR) advised that a Regulation Impact Statement was not required for the variations. The ORR reference number is 7002.

Detailed description of the Class Licence Variation

Details of the Variation are set out in Attachment 1.

Notes about instrument

Section 1 Name of Variation

Section 1 provides that the name of the instrument is the *Radiocommunications (Low Interference Potential Devices) Class Licence Variation 2005 (No. 1)* (the class licence variation).

Section 2 Commencement

Section 2 provides that the class licence variation commences on the date that the instrument is registered.

Section 3 Variation of *Radiocommunications (Low Interference Potential Devices) Class Licence 2000*

Section 3 provides that Schedule 1 varies the *Radiocommunications (Low Interference Potential Devices) Class Licence 2000* (the class licence).

Schedule 1 Variations

[1] After section 3, note

Item [1] substitutes the existing explanatory text to section 3 with some additional information. The Note now includes information about the possible requirement for devices operating under the class licence to gain approval from appropriate regulatory bodies, such as the Therapeutic Goods Administration or State Government Authorities. This information is particularly relevant to MICS and MITS devices.

[2] Schedule 1, item 19

Item [2] varies Item 19 of the class licence by changing the frequency range that low power transmitters are authorised to operate on from 2400-2463 MHz to 2400-2483.5 MHz. The effect of this is to authorise all low power transmitter to operate on an expanded frequency range in circumstances where the transmitter has a maximum EIRP of 10 mW.

[3] Schedule 1, item 44

Item [3] varies the existing Item 44 in Schedule 1 by splitting the frequency band previously authorised under Item 44 (5150-5350 MHz) into two separate frequency bands, 5150-5250 MHz and 5250-5350 MHz. Item 44 now only authorises users to operate radio local area network (RLAN) transmitters (used indoors) in the frequency range 5150-5250 MHz. The maximum EIRP permitted while operating the equipment in this frequency range remains at 200mW. The limitations imposed on operation also remain the same for Item 44.

Item [3] also inserts a new item into Schedule 1, Item 44A. Item 44A authorises the operation of RLANs (used indoors) in the frequency range 5250-5350 MHz. The

maximum EIRP is the same as for Item 44, 200 mW. The first two limitations on operation are also the same as for Item 44. However, Item 44A includes an additional limitation. The third limitation does not come into effect until 1 January 2006 and only applies to RLANs used for the first time after this date. Post 1 January 2006, RLANs (used indoors) operated for the first time in the frequency band 5250-5350 MHz must use dynamic frequency selection (DFS) and transmit power control (TPC). Alternatively, a user can choose not to use TPC but must instead comply with a lower EIRP of 100 mW.

The purpose of DFS is to protect the operation of radiolocation services (radars) by ensuring that RLAN devices avoid co-channel operation with radars operating in the same geographic area. The purpose of TPC is to provide additional mitigation against potential interference from RLANs by minimising the radiated power from an RLAN. These requirements, taken together with the pre-existing indoor operation and 200 mW EIRP limits, are aimed at providing continued protection for radiolocation and space-borne earth exploration satellite (active) services that may operate in the band.

[4] Schedule 1, after item 47

Item [4] inserts seven new provisions into the class licence as follows:

Item 48: Medical implant communications systems transmitters

The variation inserts a new item 48 into Schedule 1 of the class licence to authorise the operation of medical implant communications system (MICS) transmitters. Item 48 provides that MICS transmitters may only be operated in the 402-405 MHz band with a maximum EIRP of 25 μ W outside the body.

A MICS transmitter is a short-range radiocommunications transceiver that communicates with an extremely low power radiocommunications device incorporated within a medical implant in a patient. The systems enable remote monitoring and control of the implant. It should be noted that these devices operate in the same spectrum as land mobile systems. The LIPD Class Licence now authorises the operation of MICS transmitters on an uncoordinated and interference unprotected basis.

There are four limitations set out in Item 48 that place requirements on the use of MICS. They reflect the outcome of consultation with the Therapeutic Goods Administration on the operating requirements of the devices in a shared radiofrequency spectrum environment.

Two explanatory notes are also included under Item 48. The first note clarifies for suppliers of MICS transmitters that in addition to complying with operational requirements these devices are required to meet marketing requirements set by the Therapeutic Goods Administration. The second note explains what is meant by the phrase 'medical implant event' for the purposes of limitation 3 in Item 48.

Item 49: Medical implant telemetry systems transmitters

A new Item 49 is inserted into the class licence to authorise the operation of a radiocommunications device known as a medical implant telemetry system (MITS)

transmitter. A MITS transmitter transmits one-way radiocommunications transmissions from a device implanted in a patient to an external monitoring receiver.

Item 49 authorises the operation of MITS transmitters in the frequency range 403.560-403.760 MHz with a maximum EIRP of 100 nW outside the body. The note to Item 49 highlights for suppliers that in addition to complying with operational requirements these devices are required to meet marketing requirements set by the Therapeutic Goods Administration.

Item 50: Data communications transmitters

A new Item 50 is inserted into the class licence to authorise the operation of radiocommunications devices known as ‘data communications transmitters’ in the 59.4-62.9 MHz frequency band. Data communications transmitters require very wide bandwidth in order to deliver short-range broadband communications.

Item 50 provides that a data communications transmitter may be operated in the 59.4-62.9 MHz frequency band if the maximum EIRP is limited to 150 W, and the peak transmitter output power is limited to 10 mW. The reason for limiting the peak transmitter output power is to minimise possible interference between systems operating in this spectrum.

The deployment of such equipment is also limited to terrestrial situations (i.e. not aircraft) to ensure protection of the inter-satellite service, as per footnote 558 of the *Australian Radiofrequency Spectrum Plan*.

Items 51–54: Frequency hopping transmitters

The class licence variation inserts four new items into Schedule 1 to authorise the operation of a particular type of spread spectrum device known as a ‘frequency hopping transmitter’ over several frequency ranges. Operation of frequency hopping transmitters was previously authorised under the Spread Spectrum Class Licence. The Spread Spectrum Class Licence has now been revoked.

Items 51 to 54 set out the permitted operating frequency bands for these devices, namely 915-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz. The maximum EIRP permitted differs depending on which of the three authorised frequency bands are used. Likewise, the minimum number of hopping frequencies that must be used when operating the device differs depending on which frequency band is used. Items 52 and 53 authorise operation of frequency hopping transmitters in the same frequency band; however, depending on the maximum EIRP used, the minimum number of hopping frequencies differs.

In summary, frequency hopping transmitter are authorised to operate in three frequency bands; however, the limitations on the operation of the transmitter and the maximum permitted EIRP differs depending on the frequency band used.