

# Apple response to Australia Consultation “Remaking the low interference potential devices class licence”

## Questions and Apple Inc. (Apple) Responses

### Apple Opening Comments

Apple Inc. (Apple) welcomes the opportunity to provide this submission in response to the Australian Communications and Media Authority’s (ACMA) consultation on “Remaking the Low Interference Potential Devices Class License.”

We commend ACMA’s ongoing efforts to modernize the regulatory framework to reflect evolving technologies and consumer needs. Apple is committed to supporting innovation through responsible spectrum policy and appreciates the chance to contribute to this important process.

### Review of existing instrument

Apple supports the 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Updating references to ETSI standards that are outdated, such as EN 302 065, will be replaced by the multi-part documents.

Remove the limitation from 920-926 MHz RFID transmitter which required compliance with a not freely available standard( ISO/IEC standard) is good to whole industry.

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

Apple has no comment on this section.

### Frequency hopping radiocommunications transmitters in the 5925–6425 MHz band

Apple supports ACMA’s proposal to include Frequency hopping radiocommunication transmitters in the 5925-6425 MHz band, and aligned with the transmitter RF requirement in EU regulations.

As defined in ECC Decision (20)01, the only requirement to allow multiple types of unlicensed systems to utilise the band is an “Adequate Spectrum sharing technique”, which can take many forms and must be technology neutral as required by the EU Commission when citing harmonised standards. Extract from ECC Decision (20)01.

Table 2: Very Low Power (VLP) WAS/RLAN devices

Parameter	Technical conditions
Permissible operation	Indoors and outdoors Use on drones is prohibited
Category of device	The VLP device is a portable device
Frequency band	5945-6425 MHz
Channel access and occupation rules	An adequate spectrum sharing mechanism shall be implemented.
Maximum mean e.i.r.p. for in-band emissions (note 1)	14 dBm
Maximum mean e.i.r.p. density for in-band emissions (note 1)	1 dBm/MHz
Narrowband usage maximum mean e.i.r.p. density for in-band emissions (note 1) (note 2)	10 dBm/MHz
Maximum mean e.i.r.p. density for out-of-band emissions below 5935 MHz (note 1)	-45 dBm/MHz (note 3)
<small>Note 1: The “mean e.i.r.p.” refers to the e.i.r.p. during the transmission burst, which corresponds to the highest power, if power control is implemented. Note 2: Narrowband (NB) devices are devices that operate in channels bandwidths below 20 MHz. Narrowband devices also require a frequency hopping mechanism based on at least 15 hop channels to operate at a PSD value above 1 dBm/MHz. Note 3: ECC will study the appropriateness of this level of OOB by 31/12/2024. In absence of the justified evidence, a value of -37 dBm/MHz will be adopted from 1 January 2025.</small>	

The current published version, V1.1.1 of EN 303 687, does not address this technology neutrality issue and provides only channel access mechanisms for IEEE Wi-Fi devices directly inherited from the EN 301 893 standard for 5GHz systems. ETSI has already initiated a new work item to resolve this in the next revision of the standard, and the description of this work item can be found here: [https://portal.etsi.org/webapp/WorkProgram/Report\\_WorkItem.asp?WKI\\_ID=69134](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=69134)

Until this is completed and published, EN 303 687 alone cannot provide a single market access solution for Narrow-band devices.

As an alternative to this, ACMA could consider allowing a combination of EN 303 687 for the Transmitter parameters and allow use of the FCC CBP-based methodology as defined in KDB 987594 D02.

It should be noted that EN 303 687 has a more restrictive range in terms of operating frequency and the lower bound starts at 5945 MHz. As ACMA is allowing the full 500MHz to be utilised the specific additional restrictions of the OOB limits < 5935MHz defined in section 4.3.4.1 should not be applied, and the spectral power mask defined in section 4.3.4.3 should be applied instead for the lower band edge of 5925 MHz.

#### **Digital modulation radiocommunications transmitters in the 5150–5250 MHz band**

Apple supports ACMA broadening the type of devices allowed to operate in the 5150–5250 MHz band to include all digital modulation radiocommunications transmitters.

#### **RLAN radiocommunications transmitters in the 6425–6585 MHz band**

Apple strongly supports ACMA's forward-looking vision to enable timely access to part of the upper 6 GHz band. Along with access to the lower 6 GHz, this spectrum represents a vital opportunity to unlock the full potential of next-generation wireless connectivity. Wi-Fi products capable of operating in the 6 GHz band are not only readily available in the market today; they have also undergone rigorous certification by the Wi-Fi Alliance, ensuring they meet global standards for performance and interoperability. By moving swiftly to open this band, ACMA can help foster innovation, expand high-performance connectivity, and empower consumers and industries alike to benefit from faster, more reliable wireless experiences.

Apple supports ACMA's view that a spectrum split is a pragmatic and forward-thinking approach to maximizing the value of the upper 6 GHz band. A band-split at 6585 MHz enables shared use of the spectrum, striking a balance between different technologies and stakeholders.

Apple emphasises the importance of the outcome of WRC-23 relating to the 6425-7125 MHz band with the IMT identification but also the recognition of WAS/RLAN as detailed in footnote 5.457E -

*5.457E The frequency bands 6 425-7 125 MHz in Region 1 and 7 025-7 125 MHz in Region 3 are identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Resolution 220 (WRC-23) applies.*

*The frequency bands are also used for the implementation of wireless access systems (WAS), including radio local area networks (RLANs). (WRC-23)*

Apple recommends that the adjacent 7125–7250 MHz band, which is currently under consideration in WRC-27 Agenda Item 1.7, be evaluated for potential future IMT deployment. If allocated, this band could contribute an additional 125 MHz of IMT spectrum. When combined with a portion of the upper 6 GHz band beginning at 6585 MHz, this would create up to 665 MHz of valuable contiguous spectrum for IMT use. Such an allocation could significantly enhance capacity for mobile broadband and future wireless services. However, Apple underscores the importance of rigorous technical studies to ensure this potential expansion does not cause harmful interference to incumbent WAS/RLAN operations in the band below 6585 MHz.

#### **Radiodetermination radiocommunications transmitters in the 13.4–14 GHz band**

Apple has no comment on this section.

#### **Radiodetermination radiocommunications transmitters in the 76–77 GHz band**

Apple has no comment on this section.

#### **Ultra-Wide Band (UWB) Channel 9 (7.7-8.3 GHz)**

Apple emphasizes the rapid evolution of the Ultra-Wide Band (UWB) ecosystem, which has transitioned from a niche technology to a critical enabler of widely adopted consumer applications. Once limited to specialized use cases, UWB now plays a pivotal role in enhancing everyday digital experiences, delivering secure, precise, and intuitive functionality across a growing

number of devices. Apple has integrated UWB into several of its products and features, reflecting the technology's expanding value and relevance in the consumer landscape.

UWB's unique capabilities permits the realization of many new applications based on precise positioning. This includes personal and consumer device tracking, access control, and smart homes, driving personalized, position aware automation, and secure applications for the future automated society. Furthermore, it can also be found as a secure "Digital Key" in a growing number of vehicles.

UWB technology unlocks a new generation of applications by enabling highly precise spatial awareness and positioning. Its unique capabilities are transforming the way devices interact with the world around them powering innovations in personal and consumer device tracking, seamless and secure access control, and intelligent automation in smart home environments. UWB is at the heart of personalized, location-aware experiences, paving the way for a more intuitive and secure automated society. Notably, UWB is increasingly being adopted as a trusted "Digital Key" solution in next-generation vehicles, further highlighting its growing significance across industries.

We respectfully urge support for the formal recognition of the substantial consumer value delivered by current and future UWB applications. As regulators consider revisions to the existing spectrum framework, it is essential that the evolving needs of UWB services are incorporated to ensure a robust and future-proof regulatory environment.

A particular focus should be placed on UWB Channel 9 (7.7–8.3 GHz), a critical band enabling a wide range of innovative applications with tangible consumer benefits. We note that the 7.125–8.4 GHz range has recently been proposed for possible IMT identification under WRC-27 Agenda Item 1.7, creating a significant overlap with UWB Channel 9.

To preserve the reliability and continuity of UWB operations, it is vital to recognize and safeguard these existing consumer services. This will ensure a balanced and forward-looking regulatory approach that allows both IMT and UWB to thrive in harmony; each serving important but distinct roles in the future digital ecosystem.

Apple would welcome the opportunity to address any ACMA queries with this submission.