Car Connectivity Consortium

Car Connectivity Consortium Input

ACMA Five-Year Spectrum Outlook 2026–31 Consultation

Position on Ultra-Wideband (UWB) and WRC-27 Agenda Item 1.7

Introduction

The Car Connectivity Consortium (CCC) welcomes the opportunity to provide comments on the Australian Communications and Media Authority (ACMA) Draft Five-Year Spectrum Outlook 2026–31.

CCC is a global cross-industry organization dedicated to defining how vehicles interact with mobile devices and the broader digital environment to create a seamless, secure, and privacy-preserving user experience. Through a unique model of collaboration among leading automotive manufacturers, consumer electronics companies, semiconductor providers, and security solution developers, CCC enables interoperable, end-to-end connectivity solutions that have become a global reference for device-to-vehicle interaction. CCC represents more than 300 member companies across 31 countries, with a Board of Directors drawn from leading global technology and automotive companies[1]. These efforts have led to the deployment of technologies such as the CCC Digital Key, which is already implemented in millions of vehicles worldwide and reflects a mature, globally adopted ecosystem.

31
Countries
Our member companies represent many countries around the globe.

300
Member Companies
Over 300 global member companies from automotive, smart device, and technology industries.

2011
Founded
The CCC was founded to develop global standards and solutions for vehicle connectivity.



[1] A full list of the CCC membership can be found in https://carconnectivity.org/our-members/member-list/

CCC appreciates ACMA's continued commitment to transparent consultation processes and its forward-looking approach to spectrum management. The emphasis placed on efficiency, flexibility, innovation, and alignment with international developments establishes a strong foundation for ensuring that spectrum policy continues to support evolving technologies and long-term public interest outcomes.

General Position

CCC broadly supports ACMA's stated spectrum management approach, particularly its commitment to enabling efficient and flexible spectrum use, maintaining technology-neutral regulatory frameworks, promoting spectrum sharing and class licensing models, and fostering innovation across industries. These principles are essential to sustaining a dynamic and competitive communications ecosystem.

Within this context, CCC wishes to express its position regarding preparations for the International Telecommunication Union (ITU) World Radiocommunication Conference 2027 (WRC-27), specifically Agenda Item 1.7. While CCC recognizes the importance of studying future spectrum needs for mobile broadband, it strongly cautions against the identification of the 7250–8400 MHz frequency range for International Mobile Telecommunications (IMT). Such an identification risks constraining the long-term value of this spectrum by limiting its availability for a broader range of innovative, low-power, and high-precision applications that are more closely aligned with its technical characteristics.

Strategic Importance of the Upper 7 GHz Range

The upper 7 GHz spectrum range is increasingly recognized globally as critical enabler of next-generation connectivity that extend beyond traditional wide-area mobile broadband. These frequencies are particularly well suited to support applications such as ultra-wideband-based secure access systems, including digital key solutions for vehicles and devices, as well as high-precision positioning and ranging, short-range sensing and radar capabilities, industrial automation systems, safety applications, human-machine interaction, and device-to-device and infrastructure-to-device communications in dense environments.

These use cases differ fundamentally from IMT systems. Rather than prioritizing high data throughput over wide geographic areas, they rely on extremely low power spectral density, high temporal resolution, localized operation, and predictable coexistence conditions. Ultra-wideband (UWB) technology exemplifies these characteristics. It operates with very low power levels, typically around −41.3 dBm/MHz, while leveraging wide bandwidth and precise time-of-flight measurements to deliver centimeter-level ranging accuracy and secure distance measurement capabilities. These features are inherently resistant to interference and cannot be replicated by IMT technologies.

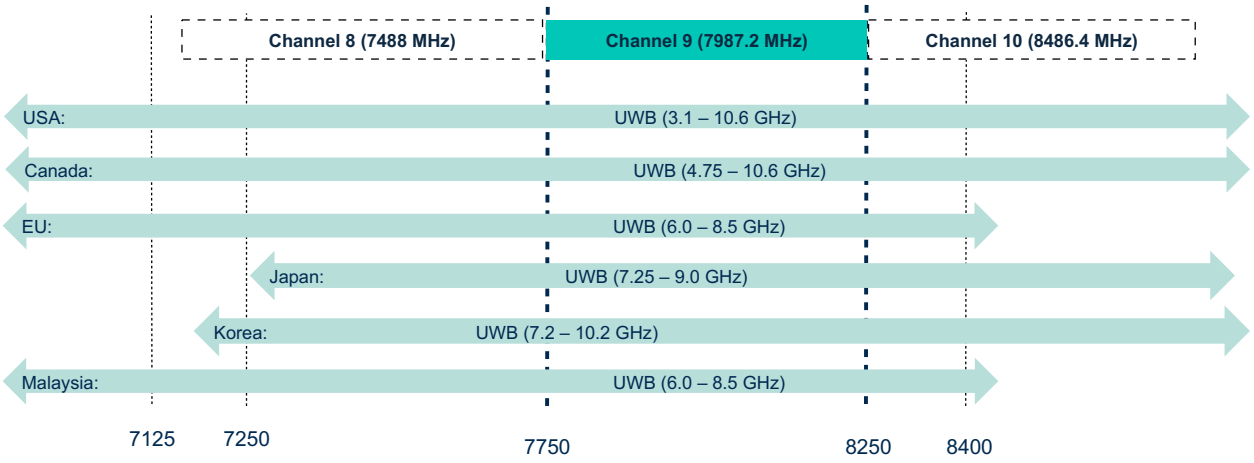
As such, ensuring continued access to appropriate spectrum for these applications is essential to sustaining innovation across multiple sectors, including automotive, consumer electronics, and industrial systems.

Critical Role of UWB Channel 9

A central element of this ecosystem is the availability of globally harmonized UWB channels. UWB Channel 9, spanning approximately 7.7 to 8.3 GHz, represents the only channel that is consistently harmonized across major global markets and device ecosystems. This channel is indispensable for ensuring interoperability, enabling global deployments, and maintaining economies of scale in device manufacturing.

As reflected in existing deployments and regulatory frameworks, UWB Channel 9 underpins applications such as secure digital vehicle access, passive entry systems, protection against relay attacks, asset tracking, and emerging sensing capabilities including occupant detection and gesture recognition. These applications are already deployed at scale and are expected to expand significantly over the coming years.

The global harmonization of this channel is particularly important given the long lifecycle of automotive platforms, which often exceed 10 to 15 years. Any regulatory action that constrains or fragments access to this portion of spectrum would therefore have immediate and long-lasting consequences. It would risk breaking global harmonization, increasing device complexity and cost, disrupting existing deployments, and limiting the viability of safety-critical and security-critical applications. Importantly, once harmonization is lost, it is extremely difficult to restore, making this a strategic and effectively irreversible regulatory decision.



Coexistence and Spectrum Efficiency Considerations

The frequency range under consideration for WRC-27 Agenda Item 1.7, including 7125–8400 MHz, is already used by a variety of incumbent services, such as fixed links, satellite systems, and defense-related applications. Introducing IMT into this environment would create significant coexistence challenges due to the fundamental characteristics of wide-area mobile systems, which typically require higher transmission power levels, coordinated deployments across large geographic areas, and tightly controlled interference environments to ensure service quality.

These characteristics are not naturally compatible with the existing uses of the band and would likely necessitate complex coordination mechanisms, restrictive technical conditions on incumbent services, and reduced operational flexibility across the spectrum.

In contrast, UWB technology has been specifically designed to coexist with other services without causing harmful interference. UWB's extremely low power spectral density and wideband signal characteristics enable it to operate as an overlay technology within existing spectrum environments. High-power IMT transmissions, even in adjacent bands, have been shown to cause significant degradation in UWB receivers, particularly affecting secure ranging performance and potentially compromising safety-critical applications.

Preserving access to UWB Channel 9 therefore allows continued operation under proven coexistence conditions, avoids the need for new and complex sharing frameworks, and supports efficient multi-service use of the band.

Alignment with ACMA Spectrum Management Principles

CCC notes that ACMA's spectrum management framework places strong emphasis on technology neutrality, support for innovation, spectrum sharing, and the use of flexible access models such as class licensing. These principles have been instrumental in enabling the success of technologies operating under low-interference frameworks.

Expanding IMT identification into the upper 7 GHz band risks moving away from these principles by effectively prioritizing a single class of use over a diverse and evolving ecosystem of applications. In contrast, maintaining and potentially extending class licensing approaches, such as frameworks analogous to Low Interference Potential Devices (LIPD), would be consistent with ACMA's established regulatory philosophy. Such approaches would preserve flexibility, reduce barriers to innovation, and support a broader range of industries and emerging use cases while minimizing regulatory complexity.

International Context and European Alignment

ACMA's consideration of international developments is an essential component of effective spectrum planning, particularly in the lead-up to WRC-27. In this context, the position developed within the Conference of European Postal and Telecommunications Administrations (CEPT) provides an important reference point.

The CEPT preliminary position on WRC-27 Agenda Item 1.7 reflects a cautious and conditional approach to any potential IMT identification in the 7125–8400 MHz range In Europe. It explicitly opposes IMT identification in significant portions of the band, particularly above 7750 MHz, and is currently considering the inclusion of a "No IMT" position in the 7250–7750 MHz range. This ongoing discussion is expected to play a defining role in shaping CEPT's consolidated position and, by extension, its influence on the broader global regulatory outcome. CEPT emphasizes the need to fully protect incumbent services and highlights the critical importance of satellite, fixed, and scientific applications operating within this spectrum.

At the same time, CEPT explicitly recognizes the continued importance of UWB Channel 9 as part of a harmonized European framework. This recognition is grounded in established regulatory measures and the growing deployment of UWB technologies in both consumer and automotive ecosystems. The European approach underscores that UWB operates on a non-interference, non-protected basis, enabling efficient coexistence while delivering significant innovation benefits.

This international perspective provides a strong signal that major regulatory bodies are not converging toward broad IMT identification in the upper 7 GHz band, but rather toward a cautious, balanced approach that preserves flexibility and supports diverse use cases. Aligning with this approach would allow Australia to maintain interoperability with global markets, avoid fragmentation of the UWB ecosystem, and reinforce its commitment to innovation-driven spectrum policy.

Recommendations

Based on the considerations outlined above, CCC respectfully recommends that ACMA refrain from supporting IMT identification in the 7250–8400 MHz band under WRC-27 Agenda Item 1.7. It further recommends that ACMA recognize and preserve UWB Channel 9, together with adjacent frequencies, as a globally harmonized spectrum resource, ensuring that regulatory and international positions maintain its usability across the band and avoid fragmentation.

Conclusion

The upper 7 GHz band represents a significant opportunity to support a diverse and rapidly evolving ecosystem of technologies that extend beyond traditional mobile broadband. Within this context, UWB Channel 9 stands out as a uniquely important global resource, enabling secure, interoperable, and high-precision applications across multiple industries.

Preserving this spectrum for flexible, low-power, and high-precision use cases aligns closely with ACMA's objectives of promoting efficient spectrum use, supporting innovation, and delivering long-term public benefit. While IMT will continue to play a central role in global connectivity, it is not the most appropriate use for all spectrum bands under consideration.

A balanced and forward-looking approach that preserves the unique characteristics of the upper 7 GHz range will ensure that Australia remains aligned with global developments and continues to foster innovation across sectors.

CCC remains available to engage further with ACMA and to provide additional technical input or supporting materials as needed. We would welcome the opportunity to discuss these considerations in more detail.

Sincerely,

Sergio Marquez Torres
Senior Regulatory Director
Car Connectivity Consortium
[redacted]