

Date: 14th May 2025

Subject: Response to ACMA consultation on remaking the low interference potential devices class licence

Dear ACMA Consultation Team,

On behalf of GS1 Australia, I am writing to provide feedback on the proposed changes to the Low Interference Potential Devices (LIPD) Class License, specifically concerning the ISM band and its impact on UHF RFID technology.

- 1. Importance of UHF RFID technology:** UHF RFID technology is integral to a number of Australian sectors, including logistics, retail, healthcare, and manufacturing. It enables efficient and accurate tracking of assets and high-speed inventory, which is essential for modern supply chain operations. Ensuring that the regulatory framework supports the continued growth and innovation in UHF RFID applications is vital for these industries.
- 2. Proposed Changes and their implications:** The proposed changes to the LIPD Class License, particularly those affecting the ISM band and Ultra High Frequency (UHF), are acceptable, including the proposed removal of the reference to ISO/IEC 18000-6C in Section 26: Table-5. However, it is important for ACMA to consider the following points:
 - **Frequency Allocation:** With over 20 years of operating UHF RFID at 4 W EIRP in the 920-926 MHz band, the technology has evolved significantly. This may allow for broader bandwidth allocation for 4 W EIRP UHF RFID within the ISM band, which could allow for denser reader deployment in metropolitan regions.
 - **Power Limits:** Increasing power limits for UHF RFID devices operating in the ISM band requires further review. The industry may consider requesting more power to solve challenging RFID applications involving metals and liquids. Maintaining optimal power levels for specific applications is crucial for the reliable performance of UHF RFID systems. For example, the harmonised European standard (ETSI EN 302 208) allows for 4 W ERP (equivalent to 38.17 dBm EIRP, or approximately 6.56 W EIRP) in the 915-921 MHz band, while Australia is still limited to 4 W EIRP (equivalent to 33.87 dBm ERP, or approximately 2.44 W ERP).
 - **Other Technical Considerations:** The industry is working towards channel use techniques that will future proof the technology and facilitate easy deployment. Existing techniques like Frequency Hopping Spread Spectrum (FHSS) need careful evaluation. Australian industry operators might consider a proposal for a technical committee to evaluate these arrangements and propose a way forward.
- 3. Emerging RFID use cases:** Recent advancements in RFID technology have introduced new use cases that require more power and bandwidth, such as:
 - **Sensor tags:** These tags integrate sensors to monitor environmental conditions like ambient temperature, humidity, and motion. They require higher power levels to transmit sensor data reliably and efficiently.

- **Real-Time Location Systems (RTLS):** RTLS applications use RFID technology to provide continuous, real-time tracking of assets and personnel within defined spaces. These systems often require increased bandwidth and power to ensure accurate and timely location updates.
4. **GS1's role in developing industry standards:** GS1 has played a pivotal role in developing and maintaining industry standards for RFID technology. For over 20 years, GS1 has overseen the collaborative development and evolution of the UHF passive RFID air interface protocol ("Gen2") open standard, also published as ISO/IEC 18000-63. Gen 2 has established itself as the backbone for interoperable UHF implementations across multiple sectors and applications.
 5. **GS1 Australia**, with previous involvement in advocating for industry for the increase of the power limit for UHF devices to 4 W EIRP, remains committed to facilitating ongoing dialogue with industry experts, manufacturers, and users of UHF RFID technology. We are willing to support an open, neutral forum for broader industry to collaborate and contribute a wholistic view.
 6. **Support from Standards Australia IT-034:** Standards Australia IT-034, the committee responsible for developing standards for automatic identification and data capture techniques, including RFID, has been a strong supporter of GS1 Australia's initiatives in this arena.

Recommendation: To address the concerns mentioned above, we recommend a formal **Stakeholder Engagement program**, to facilitate ongoing dialogue with local and global industry experts, manufacturers, and users of UHF RFID technology to ensure that the regulatory framework aligns with the needs and expectations of the market. GS1 is willing to support the facilitation on behalf of the broader industry.

Conclusion: The review of the LIPD Class License for the ISM band is a critical step in ensuring the continued success, growth and sustainability of UHF RFID technology deployed by Australian Industry. By carefully considering the implications of the proposed changes and engaging with stakeholders, ACMA can create a regulatory environment that fosters innovation while maintaining the integrity of existing systems.

Thank you for the opportunity to provide feedback on this important matter. We look forward to the positive outcomes of this consultation process.

Sincerely,

Sue Schmid

Sue Schmid

General Manager – Global Programs, Standards and Training,
On behalf of GS1 Australia