



The AMTA submission to:

The ACMA Consultation
on New Arrangements for the Banned Equipment and Exemptions
Framework.

ACMA Consultation IFC 23/2022

12 August 2022

Introductory text/background

Mobile services are vital to businesses and consumers across Australia and a degradation or loss of service can cause significant financial, health and security harms. The proliferation of devices that can interfere with, disrupt or disturb radiocommunications also represents a major source of compliance risk for mobile network operators (MNOs) given obligations to maintain the security and integrity of our networks as critical infrastructure.

The prohibition or “banned” equipment regime remains crucial to the operation of licensed radiocommunications and fundamental to ensuring the compliance of radiocommunications devices and equipment used in Australia. Given the impact that jammers and devices that cause substantial interference can have on the operation of mobile networks, any changes to the framework must be justified and implemented carefully.

Any new exemptions must be in the public interest and based on controlled testing and trial data and supported by technical frameworks to manage interference. Transparency and accountability mechanisms must be fit for purpose. The existing *Radiocommunications (Exemption – Corrective Services NSW) Determination 2021* provides a good benchmark for the level of engagement and consultation that should be expected from stakeholders seeking exemptions from equipment bans.

AMTA supports some of the changes that the ACMA proposes to implement to the banned equipment and exemption framework – including the general objective of harmonisation and the use of new powers afforded to the ACMA under the *Radiocommunications Act 1992*. However, AMTA has the following general concerns with the ACMA’s proposed revised framework:

1. The new banned equipment framework is significantly narrower than the existing prohibition framework and this creates interference risks for MNOs and other licensed operators for which there are no clear mitigation measures proposed
2. Certain draft exemption instruments are not sufficiently limited, and the associated transparency measures are inadequate – specifically the draft information request powers and the proposed “information for users and stakeholders” document
3. There is insufficient explanation for the proposed changes to the framework and it is incumbent upon the ACMA to provide clear reasons for why stakeholders concerns are not relevant

AMTA comments on individual draft instruments follow.

PMTS Jammer Permanent Ban must include devices not specifically designed to cause interference

The current approach in the [Radiocommunications \(Prohibition of PMTS Jamming Devices\) Declaration 2011](#) (“PMTS Jammer Prohibition”) is that a device will be banned if it fulfills either one of the following two conditions:

- it is designed to have an adverse effect on radiocommunications; or
- it would be likely substantially to interfere with, disrupt or disturb radiocommunications.

The proposal by the ACMA for revision of the PMTS Jammer Prohibition in the form of a replacement permanent ban, is to delete the second alternative condition. The ACMA proposes that only the first condition, a requirement that the device be “designed” to have an adverse effect on radiocommunications, should remain as a trigger.

This is not a change which arises out of the reforms to the Radiocommunications Act (the Act) which took effect in 2021. Although the amended Act has entirely revised provisions on equipment regulation, there is no substantive change to the relevant conditions that may give rise to banning particular devices.

Under section 172 of the Act, the ACMA may impose a permanent ban if *either* it is satisfied that the relevant equipment is designed to have an adverse effect on radiocommunications, *or* if the ACMA is satisfied it is reasonably foreseeable that use or misuse of the relevant equipment would substantially interfere with radiocommunications or cause disturbance or disruption to radiocommunications in some other way.

Therefore, there is no requirement that the permanent ban rely only on the test of the equipment being designed to cause an adverse effect, set out in section 172(a) of the Act. Retention of the existing condition in the PMTS jammer instrument of actual adverse effect, would meet the alternative requirement for imposition of a permanent ban set out in section 172(b) of the Act.

The ACMA says that, “the current ban has the capacity to incidentally apply to legitimate communications devices that could otherwise be licensed”, however it does not provide examples of such scenarios. It is therefore difficult to assess the benefit of changing the approach taken in the existing PMTS jammer prohibition.

AMTA is concerned that the proposed narrowing of the condition for imposing a permanent ban to only that of a “design” test, and no longer taking into account the effect of use of a device, will create difficulties in practice for the ACMA’s enforcement of the permanent ban. Supply, offer to supply, possession or operation of a permanently banned device may be prosecuted as a criminal offence under the Act. However, the evidentiary burden of proving that a device has been “designed” to have an adverse effect is likely to prove significantly more difficult to discharge than proving a likelihood of substantial interference with radiocommunications. The latter test is a factual matter that can be proven either by evidence collected using measurement instruments such as a spectrum analyser and mobile network records during an actual interference incident that has already occurred, or by conducting tests using measurement equipment in a shielded room or a similar quarantined testing area. Expert evidence affidavits attesting to the outcomes of scientific measurement are accepted as a matter of course in Australian courts.

On the other hand, it is unclear how extensive and of what nature the required evidence would be, to show that the “design” of a particular device is intended to have adverse effect on radiocommunications. Rather than being able to rely entirely on expert evidence as to the effect of use of the device, the ACMA may need to adduce highly technical evidence as to the manner in which the device jams legitimate transmissions, which is likely to be a much more complex analysis to place before a court.

From a practical perspective, the narrower scope of the ban means that any equipment that will “likely substantially interfere, disrupt or disturb radiocommunications” will have to be solely managed under the ACMA’s interference management processes. The effectiveness of such processes is seriously compromised in situations where the source of the interference cannot be readily verified. AMTA notes that this concern does not appear to be addressed by any compulsory notification obligations on exempt persons, including under the draft “Use of banned equipment under the *Radiocommunications Act 1992* by law enforcement and related persons” document (Attachment G to the ACMA’s Consultation paper), addressed in further detail later.

Picocell Jammer Exemption is flawed and should be removed

The ACMA has included an exemption in clause 5(3) of the draft PMTS Jamming Equipment Permanent Ban such that *“if the principal purpose of equipment is to enable a person to use a carriage service, the equipment is deemed not to be PMTS jamming equipment.”* As the consultation paper notes, this is to *“...facilitate use of equipment on domestic aircraft that might have otherwise been banned”*,¹ which is a reference to the outdated Mobile Communications Systems On-board Aircraft (MCA) technology.

AMTA considers there are likely to be unintended consequences arising from this exemption. Exempting PMTS Jamming Equipment to enable supply of a carriage service could allow any entity wishing to provide exclusive communications services to a captive audience the ability to legally deploy PMTS Jamming Equipment. It need not only be aircraft. It could readily extend to places such as hotels or private 3G/LTE/5G networks. For example, a hotel operator could readily supply a carriage service over the hotel’s Wi-Fi network (accessible by most modern smartphones) and then force customers on to that carriage service by denying access to public mobile networks using a PMTS Jammer.

AMTA is unaware of any uses of the Mobile Communications Systems On-board Aircraft (MCA) technology. Recent internet searches suggest while there was interest in the technology circa 2005-2010, since then there has been little to no interest. Airline customer communication needs are now being served by satellite broadband internet access, distributed on-board via Wi-Fi.

Due to the possibility of unintended consequences and no active evidence of use of MCA technology, AMTA strongly recommends clause 5(3) is removed from the PMTS Jamming Equipment Permanent Ban before the instrument is made.

More generally, the scope of the ban, contrary to the ACMA’s intention to ensure greater specificity, would appear to be unacceptably vague as to when equipment is in fact banned. The uncertainty created by having to determine if equipment has been “designed” coupled with whether its “principal purpose” may be to enable use of a carriage service renders the ban meaningless. This

¹ Consultation paper, p.15.

leaves too great a burden on interference management arrangements to protect mobile services from undue interference that will result from the proliferation of jamming devices. Responding to and dealing with further interference issues will impose costs on PMTS operators and would, in AMTA's view, amount to an unacceptable degradation of the rights of spectrum licence holders.

RLAN used for carriage service exemption is similarly flawed and should be removed

AMTA considers the exemption contained in clause 4(5) for the draft RLAN and RPAS Jamming Equipment Permanent Ban (in relation to a device enabling a person to use or access a carriage service) is also flawed for the same reason it is flawed in the draft PMTS Jamming Equipment Permanent Ban.

Due to the possibility of unintended consequences in granting an exemption to a device that has the effect of jamming RLAN (or RPAS) because it is designed to be used to access or deliver a carriage service, AMTA strongly recommends clause 4(5) is removed from the draft RLAN and RPAS Jamming Equipment Permanent Ban before the instrument is made.

The process for notifying use of RPAS jammers is inadequate

The industry believes the notification process needs to be reconsidered to enable real-time notices (wherever possible) in an effective manner, so that mobile network operators can manage any interference to networks as well as avoid any reaction that may adversely impact on the operations of law enforcement activity as it happens.

Currently, the notification process for trials and testing of counter drone devices involves an email sent by the law enforcement agency carrying out the testing to potentially affected parties. This is an inadequate process that lacks consistency and is fraught with mistakes. Often, AMTA members are provided these notifications after the event (including testing and training events) which is of little help when mobile network operators are trying to diagnose the cause of network interference in real-time. AMTA members also consider it would be beneficial to have emails sent to a generic mailbox (e.g., jammer_notification@company.com.au) rather than a specific individual's email address, to reduce reliance on a single individual.

Referring to the 915 MHz band as an "RPAS band" is misleading

The available jamming devices have capability to interfere with multiple bands, including bands not specified in the Exemption Determination. Further, some drones have hardware that supports other frequencies such as 902 to 926 MHz (which overlaps with mobile spectrum) which drones might switch to if they can't use 2.4 and 5.8 GHz. This could result in jamming in the 900 MHz range despite this not being permitted under the current exemption.

Furthermore, there is much confusion when it comes to the 900 MHz frequency band. This stems from the fact that the *Radiocommunications (Exemption – Remotely Piloted Aircraft Disruption) Determination 2022* defines the relevant frequency bands to mean the frequency bands mentioned in:

(a) items 12 to 23A, 36 to 41 and 54 to 63 (all inclusive) in Schedule 1 to the *Radiocommunications (Low Interference Potential Devices) Class Licence 2015*, as in force at the commencement of this instrument; or

(b) footnote number 150 in Part 4 of the spectrum plan, as in force at the commencement of this instrument.

150	The following bands: 13 553–13 567 kHz (centre frequency 13 560 kHz), 26 957–27 283 kHz (centre frequency 27 120 kHz), 40.66–40.70 MHz (centre frequency 40.68 MHz), 902–928 MHz in Region 2 (centre frequency 915 MHz), 2 400–2 500 MHz (centre frequency 2 450 MHz), 5 725–5 875 MHz (centre frequency 5 800 MHz), and 24–24.25 GHz (centre frequency 24.125 GHz) are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. 15.13.
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Footnote number 150 in Part 4 of the [Australian Radiofrequency Spectrum Plan 2021 \(legislation.gov.au\)](#) refers to **902–928 MHz (centre frequency 915 MHz)** as an ISM band but only in relation to Region 2. However, Australia is designated Region 3 and not Region 2. This nuance is often not picked up by law enforcement officers who are unfamiliar with ITU regions and the fact that the only the relevant frequency range for 915 MHz is only the one defined under [Radiocommunications \(Low Interference Potential Devices\) Class Licence 2015](#) Item 20, making the relevant range 915-928 MHz which is also the same frequency range referred to RLAN and RPAS frequency band in the *Radiocommunications (RLAN and RPAS Jamming Equipment) Permanent Ban 2022*.

We suggest this point be made clearer by updating the Exemption Determination to refer to the RLAN and RPAS frequencies referenced in the newly proposed *Radiocommunications (RLAN and RPAS Jamming Equipment) Permanent Ban 2022* instrument.

Incorrectly configured RNSS repeaters could disrupt networks, and hence RNSS trials must be conducted

AMTA members remain concerned that incorrectly configured RNSS repeaters could disrupt synchronisation in telecommunications networks, especially mobile networks. 3GPP TS 38.401² defines the cell phase synchronisation requirement for wide-area base stations to be $\leq 3\mu\text{s}$ for cells with $\leq 3\text{km}$ radius. An RNSS repeater incorrectly configured with its position out by 900m would inject at $3\mu\text{s}$ error ($t = d/V = 900\text{m}/3 \times 10^8 \text{ m/s} = 3 \times 10^{-6} \text{ s} = 3\mu\text{s}$). As such, an RNSS repeater in proximity to a base station (close enough that the base station “latches” on to the repeater, not the RNSS satellite), incorrectly configured 900m or more from its actual position, will induce an error in the base station’s synchronisation by $3\mu\text{s}$, putting it out of sync, and out of compliance with TS 38.401.

The consultation paper notes³ the ACMA is developing a draft technical guideline to use to “... consider trials of RNSS repeaters...” and that these guidelines will likely serve the basis for a RALI for RNSS repeaters. The consultation paper also notes⁴ that trials of RNSS repeaters in Sydney tunnels have been delayed due to COVID-19, which is perfectly understandable and reasonable.

Nevertheless, we consider it very important that before a RALI for RNSS repeaters is published and apparatus licensing procedures established, technical trials are fully conducted to understand any possible impact to the synchronisation of telecommunications networks. AMTA members look forward to the opportunity to participate in carefully managed trials of RNSS equipment to ensure there are no adverse effects to mobile or other telecommunications networks.

Transparency and accountability measures are inadequate

AMTA understands that the main transparency and accountability mechanisms proposed in the revised framework are:

- i. proposed powers to request records of activities undertaken under an exemption determination (See for example, draft section 11 “Request – provision of records” under the *Radiocommunications (Exemption – Bomb Disposal Electronic Counter Measures) Determination 2022*)
- ii. The draft “Use of banned equipment under the *Radiocommunications Act 1992* by law enforcement and related persons” (Attachment G to the Consultation paper referred to as the “information for users and stakeholders” document)

AMTA considers that these mechanisms are not fit for purpose and will result in a loss of oversight in relation to the performance of exemption activities. The proposed powers for the ACMA to request records of activities, while potentially useful for the ACMA, do not provide any recourse or access for affected licensees. AMTA considers that the ACMA must provide further clarity around the exercise of these proposed powers such as what factors may trigger the ACMA to make requests and what rights affected licensees have to gain access to information provided in response to ACMA requests.

² 3GPP TS 38.401, Version 16.3.0, section 7.4 Cell phase synchronisation accuracy (TDD) and Table 7.4.2-1. https://www.etsi.org/deliver/etsi_ts/138400_138499/138401/16.03.00_60/ts_138401v160300p.pdf

³ Consultation paper, p.16.

⁴ Consultation paper, p.16.

There also does not appear to be any compulsory notification obligations placed on persons that enjoy the benefit of an exemption. This is despite the fact that MNOs have previously highlighted the importance of clear notification requirements as part of any exemption arrangement. While AMTA welcomes much of the substance of the draft information for users and stakeholders document, including the proposed notification arrangements, it appears that the ACMA does not intend to formalise the document, which will undermine its compliance effect. AMTA suggests that the document be finalised as formal advisory guidelines issued under section 262 of the Act.⁵

When considered in the context of the proposed narrowing of the permanent equipment bans, the lack of clear transparency and notification obligations will further complicate interference management tasks. The lack of oversight undermines MNOs capacity to effectively manage their customers and creates real compliance risks, such as under Part 14 of the Telecommunications Act and other security and notification obligations arising from the status of telecommunications networks as critical infrastructure.

⁵ Such as the *Radiocommunications Advisory Guidelines (Use of Electronic Counter Measures for Bomb Disposal Activities 2010* (ECM RAG), upon which the document is based and which the ACMA proposes to repeal