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**Pivotel Response to ACMA - 'Area-wide apparatus licences in the 3.8 GHz
band in metropolitan and regional Australia'**

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Pivotel welcomes the opportunity to comment on the ACMA's consultation paper 'Area-wide apparatus licences in the 3.8 GHz band in metropolitan and regional Australia'.

CONTEXTUAL STATEMENT

- Spectrum in the 3.4-4.0 GHz mid band is crucially important for the delivery of 4G/5G/6G services for both mobile coverage and especially in relation to wireless broadband (WBB) usage, alongside low band spectrum for coverage and mmWave spectrum for very high-speed low latency applications.
- Providers such as Pivotel are well placed to play a unique and relevant role in improving coverage and bringing innovation to parts of regional and remote Australia. This is however predicated on access to suitable spectrum at a cost that enables a reasonable return on investment.
- A flexible spectrum management approach consisting of Spectrum Licences covering large geographic and even national regions combined with Area Wide Licences that enable place based networks will encourage a larger and more diverse range of network operators. Licence fees also need careful consideration with place-based networks typically targeting very specific populations, often with very low density and high natural operating costs that reduce the potential for operators to receive a commercial return on investment.
- As such, Pivotel has consistently advocated for a combination of spectrum licence for more populous and high traffic areas, combined with Area Wide Licences (AWLs) or Apparatus Licences (ALs), for regional and remote parts of Australia, as opposed to a blanket national spectrum licence approach. However, the creation of a competitive, innovative marketplace for the delivery of 5G services in metropolitan areas also requires that AWLs be available in metro areas, sitting beside wide area spectrum licences.
- As a mobile operator already delivering 4G/5G services to regional and remote parts of Australia, and with plans to deliver 5G place based services to campuses, ports, utilities, and manufacturing facilities in metro areas. Pivotel is pleased to see that the ACMA is releasing AWL licenses across Australia in the 3.8 GHz band (3750–3950 MHz in regional areas, and 3800–3950 MHz in metropolitan and immediate surrounding areas).

Pivotal Response

Pivotal considers it paramount that ACMA must proceed with Option-1 (LA WBB Priority Period) as the method to allocate the 3.8 GHz AWLs. We strongly object to the proposal described under Option-2 because of the high likelihood that incumbent WA WBB players (Spectrum Licensees) with established revenue streams are likely to starve new market entrants of the much-awaited spectrum, thus not stifling opportunity, competition, and innovation in Australia. Nil MHz Limit, Cross-band limits and Quantum policy must be imposed for the same reason. Furthermore, Pivotal is concerned that after the Nil MHz time limit expires, some form of a 'use it or lose it' condition should apply to discourage spectrum squatting, enable new entrants, and enable development of innovative new LA-WBB use cases.

Pivotal's specific preferences in the Option-1 allocation framework is described in Table-1.

Table-1: Pivotal Preferences within Option-1

	Option 1: LA WBB priority period
Process	Two stage administrative allocation approach
Initial allocation window	Allocation principles
Limits	<p>Pivotal agrees with the following conditions, specific comments are provided further.</p> <ul style="list-style-type: none"> • Nil MHz limit • Allocation quantum policy • Third party authorisation and licence trading restrictions • Cross-band limits
Quantum policy options	60 MHz. It should be noted that although 3GPP supports 50 MHz, device and base station ecosystems have not matured to support it well.
Nil MHz limit time period	<p>12 months (Pivotal's view is that this should be a permanent limit)</p> <p>Pivotal is concerned that after the Nil MHz limit time-period has expired, the national MNOs will acquire the AWL spectrum and again create a barrier for future new market entrants, especially for LA-WBB enterprise use cases. Pivotal feels it's important to impose a 'use it or lose it' condition when granting AWL in metro and regional areas to safeguard opportunity for new entrants.</p>
Cross-band limits options	<p>140 MHz in metropolitan/regional areas in 3.4–3.95 GHz band</p> <p>Time period option: 12 months (Pivotal's view is that this should be a permanent limit)</p> <p>Like the concern expressed under Nil MHz Limit, Pivotal would like spectrum kept aside to encourage and promote new market entrants for LA-WBB deployment. If ACMA decides not to proceed with the permanent Nil MHz limit time period on the incumbent spectrum licensees, then at least a permanent Cross-band limit should be applied.</p>
Second allocation process	Allocation principles

Response to Questions from the ACCC

Use cases

- **What are the likely intended uses of 3.8–3.95 GHz band spectrum?**

The spectrum will enable the Industry 4.0 revolution having the goals of improving productivity, efficiency and safety and leading to a stronger broader economy. The new spectrum will allow use of 5G services that can provide eMBB, URLLC and mMTC capabilities. These 5G capabilities will enable many innovative use cases that would apply to various industry sectors e.g., factories, campuses, public safety, transportation, smart city, regional agriculture etc.

- **In which geographic areas is the spectrum intended to be used?**

We expect the spectrum to be used across the entire Regional and Metro areas.

- **How much spectrum is needed to support the intended use case?**

A minimum of 40 MHz spectrum is anticipated to support low density place-based opportunities.

Downstream markets

- **What is the good or service that the 3.8–3.95 GHz spectrum can support the production of?**

The spectrum will promote innovation and automation in manufacturing facilities, campuses, public safety, transportation, smart city, utilities, and agriculture.

- **Where is the good or service intended to be supplied to?**

Services and goods will be supplied within Australia and increase exports outside of Australia for manufactured goods, agriculture, education, IT and automation services.

- **Are there substitutes available to the good or service?**

Innovative uses cases driven by 5G technology are currently evolving. We expect to see solid understanding and adoption of the benefit of 5G in the next three years by end customers.

- **How could the spectrum allocation impact the state of competition and/or incentives to invest in downstream markets?**

Across metro and large regional centres, we expect to see strong demand for private and hybrid public-private networks offering new entrants the opportunity to provide purpose built placed based LA-WBB networks servicing industrial sites, ports, utilities etc. New entrants must have access to spectrum to enable a competitive marketplace in the delivery of those networks.

Alternative spectrum

- **Do you consider that substitutable spectrum exists for the 3.8–3.95 GHz bands that can similarly enable the production of the goods or services in downstream markets? If so, what spectrum bands do you consider to be substitutable?**

There are substitutable spectrum bands generally available such as 3.4-3.8 GHz band. Other spectrum bands such as 1.8 GHz, 2.1 GHz to 2.6 GHz etc., offered via apparatus licensing do not have sufficient bandwidth (capacity) compared to 3.8GHz band which is considered essential to drive 5G innovation.

Pricing

- Do you have any comments on the suite of pricing arrangements proposed?

The pricing is aligned with mmWave and Remote AWLs, therefore, Pivotel has no objection to it given that it is a consistent policy.

Technical Framework

In general RALI MS47 has become complex to understand, therefore it is recommended that ACMA simplify it. Perhaps ESRx should be addressed in a separate RALI.

In reference to the wording: *“In these restricted use bands, unless an applicant can demonstrate satisfactory coordination measures, the ACMA will generally not issue AWLs,”* it is not clear what is required to prove the successful coordination? ACMA is requested to clarify.

Stringent DBC between SL-AWL (adjacent or co-channel)

In line with our previous response to ACMA’s consultations on the subject, Pivotel would like to see flexibility in the specification of Stringent DBC and Restricted Bands applicable to AWLs outlined in Section 4.2.2 of RALI MS47. At the AWL-SL border, use of Stringent DBC and Restricted Use bands have the potential to result in unnecessary dead zones and inefficient utilisation of spectrum. Stringent DBC and Restricted Use band requirements should only apply if the AWL operator equipment is not synchronised with SL operator. RALI MS47 should make it **explicitly clear** that:

- AWL applicant can request synchronisation frame structure information from an SL operator via email or in writing.
- SL Operator must be obligated to respond to the AWL application informing on the synchronisation configuration in a timely manner (2 weeks).
- Where an AWL applicant intends to **match the synchronisation** with SL operator and is using 3GPP compliant equipment, **Stringent DBC and Restricted Use band condition is exempted** and defaults back to standard DBC without needing the neighbour SL Operator’s formal approval. The intent is to minimise the administrative burden on SL operator, AWL operator and the ACMA.
- AWL operator registers the AWL Tx device under ‘No Interference No protection’ basis with respect to the neighbour SL operator.

Pivotel believes its proposed AWL-SL border coordination rules represent a pragmatic approach without diminishing the value of the AWL spectrum due to harsh and unnecessary border rules applying to all AWL spectrum holders.

AMTA has also previously proposed a similar approach in response to IFC 11/2022 and has provided in-principle support for Pivotel's recommendation in their submission to this consultation round.

Earth Station Rx AWL

With the newly introduced Earth Station Rx (ESRx) AWL, Pivotel is concerned that the technical framework has not specified a limit on the spectrum (quantum) that could be acquired by ESRx licensees. This is an inequitable approach which could potentially starve opportunity in populated areas if the earth station licensee applies for a large bandwidth. It is therefore proposed that, *by default*, the AQP also apply to AWLRX. Where more spectrum is needed, the AWLRX applicant could apply to the ACMA for an out-of-policy exemption and provide justification as to the need for spectrum holdings exceeding the AQP limit.

Renewal and Tenure

The risk of not being able to renew spectrum beyond year 2030 (as proposed by ACMA) will act as a barrier to new entrants discouraging investment, innovation, and competition in the market.

As ACMA is aware, the well-established 4G (LTE) equipment ecosystem cannot be used in 3.8-4.0 GHz band. We believe the ACMA is also aware that the ecosystem has not fully matured in 3.8-4.0 GHz band, therefore new AWL operators will need time to conduct solution trials to able to offer cost effective and fit-for-purpose solutions. 5G Innovative use cases will require optimisation of solutions and services which is anticipated to take three years from the grant of a 3.8 GHz AWL. As a result, it is likely that only a limited number of deployments utilising the AWL spectrum licences will be active prior to 2027 with scale opportunities emerging after that. Infrastructure investments in 5G will be predicated on long term ROIs which will not be possible if spectrum access beyond 2030 is uncertain.

Pivotel recommends that spectrum certainty be ensured for a minimum period of 15 years from the awarding of the AWL licence for all active deployments as of 2030 and that the ACMA move rapidly to a final long-term position on spectrum use in the 3.8 – 4.0 GHz band by no later than end 2025. If that is not possible, the ACMA should establish a framework such that all holders of active AWL licences in the 3.8 -4.0 GHz band, in 2030, be given a first right to acquire an additional 5-year period on equitable terms.

For any questions in relation to this response please contact:

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