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**Pivotel Response to ACMA - '1800 MHz and 2 GHz outside spectrum
licenced areas'**

5th Sept 2024

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Pivotel welcomes the opportunity to comment on the ACMA's consultation paper '1800 MHz and 2 GHz outside spectrum licenced areas'.

CONTEXTUAL STATEMENT

- Spectrum in the 1.8 GHz and 2 GHz mid bands is crucially important for the delivery of 4G/5G/6G services for both mobile coverage and especially in relation to Local Area - wireless broadband (LA-WBB) usage, alongside low band spectrum for wide area coverage.
- 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 reforms being made to increase spectrum efficiency. In particular, ability to for non-national MNOs to request spectrum when its preferred assignment range is exhausted.

Pivotel Response

Pivotel’s response to individual policy element is provided in the following table:

Policy element	In high demand areas	In other areas	Pivotel Response
High demand area definition	<u>Defined at a point in time: Any level 3 Hierarchical Cell Identification Scheme (HCIS) cell with more than 10 PTS base stations in the 1800 MHz or 2 GHz bands, with some exceptions.</u>		Agreed
Spectrum limits	<u>1800 MHz/2 GHz remote areas: 2x20 MHz cross-band (i.e., applying to total holdings across both bands) allocation quantum policy[3] (AQP) under ss.100(4C) of the Radiocommunications Act</u>		Agreed with an increase to 2 x 20MHz in the same band for non-national MNOs across regional and remote areas
	2 GHz regional areas: A 2x10 MHz allocation quantum policy under ss.100(4C) of the Radiocommunications Act		
Exemptions to spectrum limits	None	2x40 MHz if spectrum available	Agreed
Associates test	<i>We are seeking views about the utility of an associates test</i>		See Pivotel's response to the relevant question.
Area where spectrum limits apply	30 km radius from base station. Licensee required to re-use the same frequency within this area for any additional base stations deployed.		Agreed
Preferred assignments for sectors – 1800 MHz	Non-exclusive		Agreed with an increase to 2 x 20MHz i in the same band for non-national MNOs.
	MNOs: 2x20 MHz		
	Other non-MNO licensees: 2x15 MHz		
	If preferred spectrum not available, applicants can apply for access to any portion of the band.		
Preferred assignments for sectors – 2 GHz	Non-exclusive		Agreed with an increase to 2 x 20MHz in the same band for non-national MNOs.
	Remote: 2x15 MHz each		
	Regional: maintain current arrangements		
	If preferred spectrum not available, applicants can apply for access to any portion of the band.		

PTP links	Possible re-location over 5 years	Maintain embargo 62	Agreed
Inefficient spectrum use	<u>Possible 'over the top licensing for consideration</u>	No change	<p>Agreed, however, in regard to: 'Issue a licence for the same frequency in the same area if satisfied licence is unused' requires a checklist of documents to be provided by Licensee. The checklist should avoid complexity to keep administration burden at a negligible level. At least one of the following documents should be provided by Licensee to ACMA upon request:</p> <ul style="list-style-type: none"> • Proof of committed project • Proof of RFI/RFP process under which site is being considered • Site acquisition survey • As built certificate • Evidence of ongoing use
Licence duration / renewal	No change		Agreed

Response to Questions

Question 1

The ACMA invites comments on the analysis of spectrum utilisation in the bands

Figures 6 in the ACMA consultation paper clearly demonstrate national MNOs and national spectrum licence holders, underutilise the 1800MHz spectrum relative to "Other" i.e. non MNO's for Enterprise and Private LTE solutions. Figure-7 also shows that there is a major demand of 2GHz for Enterprise and Private LTE. This analysis clearly demonstrates the demand from non-national MNOs is greater than the supply in high demand areas which needs to be addressed.

Question 2

The ACMA invites comments on these (potential alternative spectrum) and any other spectrum supply issues

The only available potential alternative lower band spectrum available to non-Spectrum Licence holders (i.e. national MNO's) is C band spectrum whose propagation is about 6 dB worse than the 1.8/2 GHz spectrum, resulting in a shorter range. In remote areas, access to low band spectrum (i.e. < 1 GHz) is ideal for greater efficiency, but is hindered by the unavailability of low band spectrum on an apparatus or AWL basis. Pivotel is hopeful this will be addressed through the upcoming ESL review process the ACMA is conducting.

Additionally, Pivotel understands that the long-term availability of C band spectrum is not guaranteed due to ongoing ESL review and harmonisation activities. As a result, the 1.8/2 GHz spectrum is considered a fallback option should 3.8 GHz spectrum band be withdrawn as an AWL option after ESL and restack activity by the ACMA.

Question 3

The ACMA invites comments on the case for action conclusion and the desirable planning outcomes.

The spectrum assignments and mechanisms for contiguous channels proposed in ACMA's preliminary view appear to be an improvement over the current scenario and better aligned to market demand. It is important to note that non-national MNOs require 2 x 20 MHz FDD channel (with 4x4 MIMO) to deliver satisfactory LA-WBB and FWBB services. Carrier aggregation across bands would necessitate dual-band radios, which is not cost-efficient and places an additional power burden on solar-powered systems.

Question 4

The ACMA invites comments on the identified policy elements and factors, or others that could be considered.

The policy elements identified by the ACMA appear sufficient in Pivotel's view.

Question 5

The ACMA invites comments on the analysis and preliminary views on the policy elements.

The analysis and preliminary view are more refined than the current scenarios. However, in general non-national MNOs require 2 x 20 MHz of spectrum to deliver satisfactory LA WBB and FWBB services.

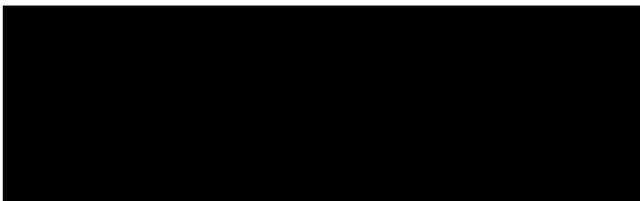
Question 6

The ACMA invites comments on whether and how an associates test could be used when applying spectrum limits.

An initial declaration should be made at the time of the licence request, stating that no additional spectrum will be sought through an associate within the same geographic area for delivery of a PTS service with a common purpose. For example, where the aggregation of spectrum allocated to two otherwise independent parties is used together with common radio infrastructure to deliver improved service characteristics under a single commercial model, the parties would be considered associates. Where each party utilises its spectrum separately under an active sharing model using common radio infrastructure, such as MORAN, for the purpose of each party delivering service via independent commercial models to different end users, or delivering competing services to common end users, such parties would be non- associates.

The application of the associates test should be enduring unless an exemption has been granted to the parties. To limit ongoing administrative burden licensees could provide annual attestations confirming the continued compliance with the associate's test. Blanket attestation could be accepted covering all sites registered to a party with only exempted sites being specifically listed. ACMA can request at any time confirmation from relevant parties that compliance with the associates test for any individual or groups or sites remains valid and provide evidence that spectrum utilised through common infrastructure meets the independent commercial model test.

For any questions in relation to this response please contact:



Pivotel Group Pty Limited