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**Response to ACMA's consultation on 'Review of
1.5GHz Band'**

9th June 2022

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Pivotel welcomes the opportunity to comment on ACMA's consultation on Review of 1.5 GHz Band.

CONTEXTUAL STATEMENT

- Pivotel is well placed to play a unique and relevant role in delivering improved high speed mobile coverage and fixed wireless services enabling innovation to parts of regional and remote Australia while also developing its plans to deliver public-private 5G services to metropolitan regions. This is however predicated on access to suitable spectrum at a cost that enables a reasonable return on investment.
- Pivotel's view is that a more dynamic and flexible approach to managing spectrum access is critical to ensuring a competitive 5G/6G marketplace is able to develop and thrive. While long term, nationwide spectrum licences provide greater certainty to incumbent national MNOs, it can be at the expense of new players in both the metro and regional markets. Newer market entrants such as Pivotel are often unable to deliver new network coverage due to the unavailability of appropriate spectrum that is licenced to incumbent MNOs that provide coverage to less than 67% of the Australian land mass.
- 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 a mobile network operator focussed on regional and remote Australia, we observe that rural community communication needs are constantly evolving, and Pivotel is keen to see appropriate spectrum allocation methodologies that enable these markets to be served in new and innovative ways, now and into the future.

Pivotel has noted the availability of 1.5 GHz spectrum for potential IMT and MSS services as per ACMA discussion paper and our further comments are as follows:

- Pivotel has previously stated in response to FYSO 2022-2027 consultation that our approach is not to over-build coverage, with our 4G/5G coverage beginning where other MNOs end. Our primary target market is rural and remote Australia which has a low population density, however, our ability to develop innovative new methods to build, connect and operate rural networks has allowed us to see an opportunity to expand mobile coverage into areas where today there is none. This market is most cost-effectively addressed with low-band spectrum which provides the best radio propagation characteristics. An equivalent mid-band solution requires at least three times the infrastructure to deliver equivalent coverage compared to a low-band solution. With the driver to acquire low-band spectrum, Pivotel took part in the recent 850/900 MHz auction, however, due to the spectrum licencing approach and bidding rules, and the resultant competitive bidding from the main MNOs, Pivotel was unable to

acquire spectrum on terms that would provide a commercial rate of return without the ability to 'cross-subsidise' the regional service with revenue from city services.

- For this reason, we have requested in the recent FYSO consultation that ACMA create provision for AWL based allocation of low-band spectrum for MNOs such as Pivotal, who are better placed to deliver more targeted and innovative solutions for reducing the digital divide in Australia. The targeted solutions will deliver a more active and high impact outcome for remote Australia which suffers from little to no connectivity. We have strongly advocated that a portion of future 600 MHz (second digital dividend) spectrum be set-aside for AWL allocation and the development of instruments to allocate low-band AWLs be fast-tracked. This is our best preference, however, it is not clear if, when and how much digital dividend (600 MHz) spectrum could be granted under AWL allocation. Thus, the opportunity to obtain 1.5 GHz IMT spectrum on AWL basis can't be ignored.
- The radio propagation of 1.5 GHz band is circa 6 dB superior compared to mid-band 3.8 GHz AWL spectrum (ACMA is planning to release). Comparing 1.5 GHz band with nearest bands available under apparatus licensing i.e., 1.8 GHz, 1.9 GHz and 2.1 GHz bands, the 1427–1518 IMT spectrum could accommodate much larger channels compared to maximum 10 MHz FDD allocation limit per operator imposed in the 1.8 GHz and 2.1 GHz bands. The 1.9 GHz band being TDD, often fails coordination in regional areas due to its adjacency to 2.1 GHz spectrum licences. Therefore, there is good merit in making the 1.5 GHz band made available for public and private networks which could potentially offer more bandwidth to each operator compared to the current apparatus licence options.
- It is acknowledged that more work needs to be done to ensure adjacent MSS services in 1.5 GHz band remain protected and this aspect can be resolved through formal industry consultation as ACMA already does through TLG.
- It is acknowledged that the 1.5 GHz equipment ecosystem is not fully mature yet, but with the band now harmonised by 3GPP we believe the ecosystem will accelerate once the demand becomes clear.
- We propose that ACMA move into a preliminary planning stage to allocate 1.5 GHz without any delay, and decision on TDD or FDD could be made during the detailed technical consultation phase.

Q. Are there any international arrangements or technology trends that the ACMA should be aware of?

We believe ACMA's discussion paper has covered the global trend well.

Q. What is the demand for access to the 1.5 GHz band for WBB, MSS and broadcasting services? Are there any other new services that should be considered?

Pivotal believes that there will be a good demand of the 1.5 GHz spectrum for IMT services in due course once the spectrum is made available in Australia. However, we still consider 600 MHz (digital dividend) band to be the main need and priority due to its cost-effectiveness in rural and remote Australia.

Q. What are the ongoing requirements for incumbent services in the 1.5 GHz band? Are there any viable alternative options?

If the incumbent services (mainly PTP and PMP) are intended to stay in the long term, then these could be protected via the ACMA technical instruments after due consultation with the industry.

Q. What planning scenarios should be considered in the 1.5 GHz band?

LA-WBB, WA-WBB and FWA use cases would become most fit for this band. The 1427 - 1518 MHz range is grossly underutilised across Australia and both TDD and FDD use would allow for a very significant increase in the value of the spectrum. If a TDD ecosystem begins to emerge during the course of the preliminary planning stage, then a decision could be made to make it a sole use TDD band.

We have no objection to the proposed MSS allocations. The size and location of the guard band between IMT and MSS allocations should be decided during preliminary planning consultation.

Q. Comment is sought on the coexistence scenarios identified, including the ACMA's preliminary thinking on these scenarios. Are there any other coexistence scenarios the ACMA should consider?

It is acknowledged that more work needs to be done to ensure adjacent MSS bands remains protected and this aspect can be resolved through formal industry consultation as ACMA already does through TLGs.

For any questions in relation to this response please contact:

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