TELSTRA CORPORATION LIMITED

Exploring the future of the 1880-1920 MHz band Discussion Paper

Public Submission

11 February, 2022

01 Introduction

We thank the ACMA for the opportunity to provide this response to its discussion paper, Exploring the Future of the 1880-1920 MHz band ("**discussion paper**").

Telstra is currently the operator of PTP links in or overlapping the 1880-1920 MHz band ("**1.9 GHz band**"), as well as IMT services on both sides of the 1.9 GHz band, and our submission requests that if new uses are introduced into the 1.9 GHz band, they must be required to afford protection to existing services within and adjacent to the 1.9 GHz band.

02 Maintain ability to deploy new point-to-point links under existing arrangements

Telstra operates a total of 54 point-to-point (PTP) links either within the 1.9 GHz band or overlapping it from the adjacent 1.8 GHz or 2.1 GHz bands. The discussion paper notes that use of PTP links in the 1.9 GHz band is restricted by Embargo 76 and the 1900-1920 MHz Frequency Band Plan 2012,[1] ("**Band Plan**") both of which serve to protect class licensed DECT cordless services which would suffer from harmful interference from PTP links. As a result of the embargo and band plan, new PTP links can only be commissioned outside metropolitan areas, and only in the upper 20 MHz (i.e., 1900-1920 MHz).

Irrespective of whether the ACMA introduces new use cases into the 1.9 GHz band or not, we request continued ability to commission new PTP links outside of metropolitan areas in the upper 20 MHz of the band (i.e., 1900-1920 MHz), as is currently permissible within the limits of Embargo 76 and the Band Plan. PTP links in regional and remote locations are an important means of providing backhaul to rural communities and mining sites, and we consider it important to be able to continue to deploy PTP links in the future in the upper 20 MHz outside metropolitan areas, given the limited availability of alternative low frequency bands for this purpose.

To ensure the continued protection of PTP links and facilitate their continued rollout where required (and where possible), we consider that the secondary status of fixed PTP links with respect to fixed point-to-multipoint and mobile services should be removed. As the sole purpose of the Band Plan appears to be to state this hierarchy between primary and secondary services, we recommend that the Band Plan is simply repealed.

We also consider that if new use cases are introduced into the 1.9 GHz band, the new use cases should be required to afford protection to existing PTP links, which exist across the full 40 MHz of the 1.9 GHz band (i.e., 1880-1920 MHz). In essence, first-in-time provisions should apply, which would also mean that any new PTP links coming after new use case(s) are introduced into the band (if any) should of course afford protection to the new use case deployments.

[1] 1900-1920 MHz Frequency Band Plan 2012, available at https://www.legislation.gov.au/Details/F2012L00733

03 Protection for IMT services in the 1.8 GHz and 2.1 GHz bands

Telstra also operates IMT services in the 1710-1880 MHz[2] band ("1.8 GHz band") and the 1920-2170 MHz band[3] ("2.1 GHz band"). We wish to stress the importance of ensuring protection for existing IMT services in these two bands (either side of the 1.9 GHz band).

Specifically, we are concerned that some types of new use cases may require additional filtering, and/or the stipulation of guard bands to ensure protection is afforded to existing IMT services, especially in the 2.1 GHz band where the uplink (base station receive) is immediately adjacent to 1920 MHz. Telstra operates fully 3GPP compliant equipment (which also complies with our licence conditions) in the 2.1 GHz band, however, this does not make our service immune from adjacent band interference.

For example, 3GPP band n39 (1880-1920 MHz) is defined as a TDD band, and fully compliant equipment, even with a 10 MHz guard band at 1910-1920 MHz, potentially will cause harmful interference to services in the adjacent 2.1 GHz band. The 2.1 GHz base station receiver may suffer harmful interference from a frequency adjacent 1.9 GHz TDD system in close proximity. In these circumstances, the 2.1 GHz base station receiver may need to be fitted with additional blocking filters to avoid such interference. There is also the possibility that the OOBE products from the 1.9 GHz TDD transmitter may cause harmful interference to the 2.1 GHz receivers. Such interference could be mitigated by fitting suitable filters to the 1.9 GHz transmitter and by maintaining an adequate guard band to the 2.1 GHz IMT band.

We consider it vitally important that if new use cases are introduced into the 1.9 GHz band, incumbent IMT operators in the 1.8 GHz and 2.1 GHz bands should be protected from harmful interference and must not be required to augment network elements at their expense, even if they are second-in-time, to protect the deployment of a new use case in the 1.9 GHz band. Incumbent 1.8 GHz and 2.1 GHz operators should only be required to meet the conditions of their spectrum licences.

Therefore, as is usual practice in planning for the possible release of spectrum for new purposes, the ACMA should establish a Technical Liaison Group (TLG) to determine the appropriate technical parameters and licence conditions required for any future services proposed to operate in the 1.9 GHz band in order to allow 1.8 GHz and 2.1 GHz IMT deployments to continue unhindered for the full term of their respective licences.

[2] The highest frequency in use in this band by Telstra is 1845 MHz as per our spectrum licence allocations.

[3] The lowest frequency in use in this band by Telstra is 1920 MHz, immediately adjacent to the spectrum that is the subject of this consultation.