TELSTRA GROUP LIMITED

Replanning the 1880-1920 MHz band December 2022 Options Paper

Public Submission

17 March, 2023

01 Introduction

We thank the ACMA for the opportunity to provide this response to its options paper, Replanning the 1880-1920 MHz band ("**options paper**") as a second round of IFC 40/2021.

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 We support Option 4

The ACMA proposes four options for replanning the 1880-1920 MHz band. The ACMA's preferred option (Option 4) introduces two key alterations to the band: 1) Extending arrangements for short-range WBB, including new evolutions of DECT and MulteFire for IoT across the entire 1880-1920 MHz range Australia-wide; and 2) introducing arrangements to allow for railway mobile radio in 1900–1910 MHz Australia-wide.

We support the ACMA's preference for Option 4, as it provides the greatest flexibility for use of the band, which will enable the band to achieve its highest value use (HVU). We note it is important that incumbent users both in and adjacent to the band are afforded protection from new service types introduced into the 1880-1920 MHz band.

03 Protection for existing PTP links

In our February 2022 submission to IFC 40/2021 (exploring options for the 1.9 GHz band), we noted that at the time, Telstra operated 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. Our February 2022 submission also requested the ability to introduce new PTP links outside metropolitan areas in the upper 20 MHz of the band (i.e., 1900-1920 MHz), as permitted by the constraints of Embargo 76.

Since February last year, our number of PTP links in the 1.8/2.0 GHz band has reduced to 38. While this indicates declining use of the 1.9 GHz band by Telstra for PTP links, the 38 active links include five new services we activated on 14 April 2022 in Western Australia and South Australia.[1]

The ACMA's preferred Option 4 plans to introduce new use cases into the 1.9 GHz band (SR-WBB and RMR). 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 have the option 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.

1 Licence numbers: 10075617/1, 10106329/1, 1601159/2, 1601159/2 and 10062161/1.

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 allowed to sunset.

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

As we noted in our February 2022 submission (to Exploring future use of the 1.9 GHz band, IFC 40/2021) we have some concerns 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.

At first pass, the ACMA's new Options Paper appears to address our concerns where it says[2] *"it is envisaged that there will be no additional requirements for the 1.8 GHz and 2 GHz spectrum licensed bands as a result of changes in the 1.9 GHz band arrangements."* However, the Options Paper then goes on to observe[3] that ECC Report 318[4] "…*concluded that FRMCS base stations operating at higher powers may cause interference to mobile network base station receivers*." Given ECC Report 318 concludes there is potential for interference, mitigation is required. Thus, in order for the first statement (it is envisaged there will be no additional requirements for 1.8 and 2.0 GHz IMT operators) to be correct, any mitigation must therefore come from the FRMCS operator.

Fortunately, the ACMA's reference to ECC Report 318 goes on to say "*This issue **may** be mitigated by limiting the transmitter power of an FRMCS base stations*." [emphasis added]. Thus, the ACMA appear to be saying that they don't envisage any additional requirements on IMT operators in adjacent bands ***because*** the onus will be on the FRMCS operator to reduce power to mitigate the interference. This appears to be confirmed again a little further on in the Options Paper,[5] where it says "*The expansion of RMR does not include any intention to change the coexistence environment with services adjacent to the 1.9 GHz band. Any potential interference has been mitigated by limiting the allocation to 1900–1910 MHz. Any further analysis that indicates an increase to the adjacent channel interference environment will be mitigated by assignment rules to the RMR allocation.*"

Greater certainty is nevertheless required to ensure there will be no additional requirements for the operators of IMT base stations in the 1.8 and 2.0 GHz bands. Simply "envisaging" there to be no requirements while simultaneously only observing that interference "*may*" be mitigated by limiting the transmitter power of an FRMCS base station is insufficient assurance for spectrum licensees who have obtained spectrum licences at great expense.

The ACMA will need to make it clearer in the technical instruments (assuming FRMCS is added to the 1.9 GHz band) that the obligation to mitigate interference between FRMCS and IMT lies with the

2 Options Paper, top of p.30.
3 Options Paper, p.31.
4 ECC Report 318: Compatibility between RMR and MFCN in the 900 MHz range, the 1900-1920 MHz band and the 2290-2300 MHz band.
5 Options Paper, p.35.

FRMCS operator. Another way to achieve this outcome (other than in the technical instruments) would be to designate RMR services as second service in Australian Radiofrequency Spectrum Plan (ARSP) when it is updated for the 1.9 GHz band.

We consider it vitally important that incumbent IMT operators in the adjacent 1.8 and 2.1 GHz bands are 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.

As is usual practice in planning for the possible release of spectrum for new purposes, we anticipate the ACMA will 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.

05 Answers to consultation questions

This section contains our answers to the six consultation questions.

1.	The ACMA invites comments on the proposed desirable planning outcomes.

We support the ACMA's five desirable planning outcomes, as articulated on pp.20-21 of the consultation paper, however, we are potentially concerned at the order in which they are listed.

The ACMA is silent on whether a priority is ascribed to the desirable planning outcomes, and as such, it may be inferred by the reader that the order in which they are listed is the priority in which the ACMA will have regard to the planning outcomes. We note that the last outcome on the list is "Maintain coexistence with adjacent band services." We are strongly of the view that this should be the second highest priority, second only to the desired outcome currently at the top of the list, which is to "Maintain arrangements for existing services".

By re-ordering the sequence of desired planning outcomes to elevate maintaining coexistence arrangements with adjacent band services into second place, i.e., ahead of planning outcomes such as introducing SR-WBB and RMR, we consider a better overall outcome will be achieved, as it will ensure the interference management requirements for incumbent adjacent band services remains unchanged.

2.	The ACMA seeks stakeholders' views on any other applications we have not identified that could be accommodated under SR WBB.

We have not identified any other applications.

3.	The ACMA invites comments on the replanning options, especially the preliminary preferred option presented in this paper, and any alternative options.

We support the ACMA's preliminary preference for Option 4, while also noting our strong desire to maintain existing interference mitigation arrangements for adjacent-band IMT services. See also our answer to Question 1 for our views on the hierarchy for the ACMA's desired planning outcomes and protection of adjacent-band IMT services.

4.	Is personal handy phone system (PHS) technology still required to be included in the cordless communication devices class licence?

We are not aware of any use of PHS technology in Australia. PHS was developed by NTT Japan well over 30 years ago, and its use in Asian countries has ceased. NTT DoCoMo terminated its PHS service in January 2008 and Softbank in July 2020. China Unicom and China Telecom closed their PHS networks in 2013. Thailand, Hong Kong, Chile and Taiwan all ceased services between 2011 and 2016. If no other submission responses identify ongoing use of PHS, we consider it would be appropriate to remove it from the cordless communication devices class licence.

5.	The 1900–1920 MHz frequency band plan will sunset on 1 April 2023. Is the band plan still required, or can the band plan be allowed to sunset?

We recommend that the Band Plan is allowed to sunset. See section 03 of our submission for details.

6.	The ACMA invites comments on coexistence considerations, and analysis on coexistence issues for the proposed options in this band.

See our response in section 04 of this submission.