

The Manager, Wireless Broadband
Spectrum Planning and Engineering Branch
Australian Communications and Media Authority

by e-mail: freqplan@acma.gov.au

Dear Manager

1800 MHZ AND 2 GHZ BANDS – REVIEW OF PLANNING ARRANGEMENTS OUTSIDE OF SPECTRUM LICENSED AREAS

We are pleased to provide comment to the Australian Communications and Media Authority (ACMA), on behalf of the NSW Government Telecommunications Authority (NSWTA), to the consultation on the review of planning arrangements outside of spectrum licensed areas for the 1800 MHz to 2 GHz bands.

The NSWTA is constituted by, and functions under, the *Government Telecommunications Act 2018* (NSW) to operate and maintain mission-critical operational communications services for public safety and government agencies within NSW. The NSWTA holds responsibility for coordinating telecommunications services support during emergencies under the *State Emergency and Rescue Management Act 1989* (NSW), has a central role in coordinating spectrum holdings on behalf of government agencies and manages major digital connectivity programs for the NSW Government.

We offer the below commentary in response to some of the issues outlined in the options paper.

Mobile Network Operator (MNO) definition

The NSWTA notes that there is no standard definition of MNO and that the options paper refers generally to MNOs as the three major mobile providers as described in RALI MS34: Telstra, Optus and TPG Telecom.

We acknowledge that defining MNO is out of scope for this consultation, however, we assert that providing a definition that is more broadly applicable would enable new providers to enter the market without hindrance with the same provisions applicable as is currently the case for the three named MNOs.

The NSWTA requests that the ACMA undertakes consultation with stakeholders regarding a definition of MNO and how it would be applied, with consideration given to its relationship with spectrum limits and allocations.

High demand area definition

We recommend that the 'high demand area' instead be defined by a 50-55km radius, approximately the same size as a Hierarchical Cell Identification Scheme (HCIS) level 3 to avoid potential boundary issues from the HCIS grid falling between two sets of stations.

Spectrum limits and preferred assignments

The NSWTA strongly discourages the use of 'Assignment Priority', as this effectively constrains the spectrum to the three major MNOs (Telstra, Optus and TPG) without any financial outlay: providing 'a

free spectrum licence' by restricting the use. Permitting other providers to enter the market increases competition and introduces new options for addressing coverage gaps.

The NSWTA would also seek for a provision of preferred assignments for public safety use in either or both 1800 and 2100 MHz bands and is overall supportive of special condition C22 to allow for rapid deployment of Cells on Wheels (CoWs).

The NSWTA is supportive of cross-band limits, noting the need for a standardised definition of MNO if separate entities are proposed to be treated differently.

Boundary definitions

Although set by the associated spectrum licences (SL), NSWTA urges the ACMA to consider standardisation of the geographical boundary definitions of both 1800 and 2100 MHz. As more bands become considered 'substitutable', it becomes more appropriate for their boundaries to become aligned. We suggest that the ACMA considers working towards this goal as part of the expiring SL process and in considering the use of spectrum available for use outside of spectrum licenced areas.

Industry benefits from increased spectrum

With additional access to spectrum, it is possible for industry to establish private mobile networks, allowing for highly automated and efficient production. Based on the ACMA's preliminary views in the consultation, spectrum access is likely to be reduced to industries for private mobile networks. The ACMA's own research¹ shows the benefits of private networks over public ones for the purposes of industry use cases.

With one of the first considerations² to private network establishment being spectrum; existing spectrum access for private networks that can be utilised for the wide ecosystem of 3GPP equipment is currently served by access to 3.4 GHz spectrum and higher that typically operates in a Time Division Duplex (TDD) frame structure, making deployment and operation harder. The ability to access 1800 and 2100 MHz equipment that operates in a Frequency Division Duplex (FDD) is a simpler deployment and operation model for entities whose main business is not providing mobile coverage.

Ubiquitous access to spectrum has been the cornerstone of the success of other economy changing technologies such as Wi-Fi, and it is suggested that a large volume of the demand for non-MNO access to spectrum for private networks could potentially be met by a portion of the spectrum being subject to a class licence; with an appropriate restructure of the associated licence conditions to provide for a low interference potential.

It is possible that a single 2x10 MHz portion of the spectrum could enable many devices on a private network and allow for other supporting apparatus-licenced bands (eg. 3.4+ GHz, 24-26 GHz) to be used effectively where a technology is more limited in its propagation characteristics and requires an anchor layer, or greater speeds are required.

The NSWTA would also suggest that such an allocation could additionally be used for public safety, with higher power limits for deployment of responsive coverage assets to emergencies or disaster recovery, operating with an understanding of no protection from interference.

Associates Test

¹ ACMA, *Market Study – Private Wireless Networks using 4G or 5G in Australia*, September 2023

² MFA, *Industrial 5G Innovation Editorial Report*, May 2022, p8

NSWTA supports the need for an 'associates test' when applying spectrum limits, as there are documented cases of the existing limits currently being avoided or circumvented.³

For further information, please contact James Pickens, Acting Managing Director, NSWTA at james.pickens@customerservice.nsw.gov.au.

Yours sincerely



**Acting Managing Director
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³ ACMA, *Market Study – Private Wireless Networks using 4G or 5G in Australia*, September 2023, p16.