



# nbn's submission on Planning of the 3700-4200 MHz band, Discussion paper

12 September 2019



# Submission on Planning of the 3700-4200 MHz band, Discussion paper

Thank you for the opportunity to comment on the issues set out in the 'Planning of the 3700-4200 MHz band, Discussion paper, August 2019'.

We set out our response to your questions below and would be happy to provide further information.

## 1 Key points

**nbn** has rolled out a fixed wireless (FW) and satellite network to service end users in homes and businesses to assist in meeting the Commonwealth Government's expectation that all Australians have access to very fast broadband as soon as possible, at affordable prices, and at least cost to taxpayers. The Government also expects that **nbn** will ensure upgrade paths are available as required<sup>1</sup>. **nbn**'s spectrum requirements are developed in the context of the Multi-Technology Mix<sup>2</sup> approach that allows **nbn** to introduce new technologies into the coverage footprint when demand arises and where commercially viable.

**nbn** welcomes the ACMA's decision to move the 3.8 GHz band (3700 – 4200 MHz) to the initial investigation stage. However, **nbn** would like to take this opportunity to request that the ACMA prioritise defragmenting of the 3.4/3.5 GHz band followed by 26 and 28 GHz band allocation processes (noting that a planning decision is pending) before the 3.8 GHz band.

**nbn** is primarily focused on evaluating mmWave opportunities for its FW network in the 26 GHz and 28 GHz bands given current equipment ecosystem developments **[C-i-C]**

**[C-i-C]** **nbn** is also monitoring developments and assessing the relative merits of other bands for **nbn**'s FW network including 3.8 GHz. **nbn** notes that the indicative timelines for progressing the 3.8 GHz band appear appropriate based on currently available information.

**nbn** is not considering the 3.8 GHz band as an upgrade path for its satellite network.

**nbn** suggests that the ACMA investigate the use of a band segmentation approach in the 3.8 GHz band that includes a contiguous 100-200 MHz band for use by FW networks, with separation by frequency and geography from all other users (including mobile networks if accommodated as new users).

Based on available information, **nbn** considers that a potential geographic scenario for new services introduced into the 3.8 GHz band should be considered based on the areas identified for spectrum and apparatus licensing in the adjacent 3.6 GHz band.

We note that a band segmentation approach may minimise or remove the need for a fall-back synchronisation condition.

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<sup>1</sup> See page 1 of NBN Co Ltd Statement of Expectations 24 August 2016 at: <https://www1.nbnco.com.au/content/dam/nbnco2/2018/documents/Policies/soe-shareholder-minister-letter.pdf>

<sup>2</sup> <https://www.nbnco.com.au/blog/the-nbn-project/what-is-the-nbn-multi-technology-mix>

**nbn** notes that relevant considerations as to whether spectrum or apparatus licences would be more appropriate for FW networks include the proposed planning arrangements, the proposed licence fee regime and the need for certainty of tenure.

[C-i-C] [C-i-C]

## 2 Questions

1. *Are there any other international developments in the 3700–4200 MHz band that the ACMA should be aware of?*

We have not identified any other developments that the ACMA should be aware of.

2. *What are the future requirements of point-to-point links and FSS earth stations in the 3700–4200 MHz band? Does this differ by geographical area and/or segment of the band?*

**nbn** has no comment on the future requirements of the identified services in the 3.8 GHz band.

3. *If licensed point-to-point links and FSS earth stations are affected by replanning activities in the 3700–4200 MHz band, what alternative deployment options could be considered?*

**nbn** suggests that the ACMA investigate the potential for alternative deployment options that would enable the use of a band segmentation approach in the 3.8 GHz band that includes a contiguous 100-200 MHz band for use by FW networks with separation by frequency and geography from all other users (including mobile networks if accommodated as new users).

4. *In the event arrangements are made for new services in the 3700–4200 MHz band, do stakeholders have any comments on the ACMA's proposal to maintain the existing arrangements for Radiodetermination and LIPD devices, and the existing policy around TVRO systems?*

**nbn** has no comments on the ACMA's proposal identified above based on the available information, noting expected low demand for new radiodetermination services in the relevant remote NT location.

5. *What are the future requirements for WBB services in the 3700–4200 MHz band and what arrangements should be considered? Does this differ by geographical area and/or segment of the band?*

See **nbn**'s views in the key points section.

6. *What WBB deployment scenarios should be considered for the 3700–4200 MHz band? Should use be limited to one scenario or should more flexible arrangements be implemented?*

See **nbn**'s views in the key points section.

7. *What is the current and planned availability of fixed and mobile WBB equipment in the 3700–4200 MHz band?*

**nbn** has no additional comments on the current and planned availability of equipment. **nbn** notes that it is limited to the available ecosystem in respect of its FW network that uses the same technology as used by mobile network operators (i.e. equipment available off-the-shelf) given cost considerations.

8. *Is there interest in the use of other new service types in the 3700–4200 MHz band?*

See **nbn**'s views in the key points section.

9. *What services/applications should be accommodated in the 3700–4200 MHz band?*

See **nbn**'s views in the key points section.

10. *Which frequencies ranges should be made available for these services/applications?*

See **nbn**'s views in the key points section.

11. *Which geographic areas should be made available for these services/applications?*

See **nbn**'s views in the key points section.

12. *On what basis should access be provided? Should access be granted on an exclusive or shared basis, on a coordinated or uncoordinated basis, et cetera?*

See **nbn**'s views in the key points section.

13. *What licensing mechanisms are appropriate (spectrum, apparatus or class licensing)?*

**nbn** notes that relevant considerations regarding whether spectrum or apparatus licences for FW networks would be more appropriate include the proposed planning arrangements, the proposed licence fee regime, and the need for certainty of tenure.

14. *If arrangements for WBB specifically are implemented in the 3700–4200 MHz band, are the proposed interference management techniques with services in the 3.6 GHz band suitable? Are any other techniques proposed? Are there any other compatibility issues with the 3.6 GHz band the ACMA should consider?*

See **nbn**'s views in the key points section. We note that a band segmentation approach may minimise / remove the need for a fall-back synchronisation condition.

15. *Should the ACMA consider extending existing apparatus and spectrum licence arrangements in the 3.6 GHz band into the 3700–3800 MHz band or another segment of the 3700–4200 MHz band?*

**nbn** has no comments on whether the ACMA should consider extending the arrangements identified above based on the available information.

16. *Is there any additional information available that would assist the ACMA in assessing compatibility of potential new WBB services in the 3700–4200 MHz band with WAIC and radio altimeter systems in the 4200–4400 MHz band?*

We have not identified any additional information that would assist the ACMA's assessment of the above.