

20 September 2019

The Manager  
Space Systems Section  
Spectrum Planning and Engineering Branch  
The Australian Communications and Media Authority  
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By email: [freqplan@acma.gov.au](mailto:freqplan@acma.gov.au)

Dear Sir/Madam

Thank you for the opportunity to comment on the *Planning of the 3700-4200 MHz band – Discussion paper*, published in August 2019 (the **Paper**).

### **Executive Summary**

ASTRA's members rely on access to C-Band spectrum in the 3.7 to 4.2 GHz band (**the Band**) for the reception of international programming, as it is the most reliable and cost-effective means of receiving such programming into Australia.

Consequently, ASTRA's position regarding any future replanning of the Band is that existing arrangements in the Band should be retained.

However, ASTRA acknowledges the need to facilitate access to the Band by new services and applications. Such access could be provided where the below requirements are met, in order to protect existing licensed C-band earth stations:

- Retain access to the band for existing licensed C-band earth stations and ensure the incumbency of these services; and
- Introduce effective interference protection mechanisms to protect existing licensed C-band earth stations from interference from new services including mobile broadband.

Ultimately earth stations need to retain access to the Band in order to ensure continued reliable and low cost access to international programming. Alternative spectrum bands offering comparable cost-effectiveness and adequate characteristics have not been identified.

### **Background**

ASTRA's members make use of C-Band spectrum in the 3.7 to 4.2 GHz band for the reception of international programming, ensuring a rich diversity of programming is available to Australian customers. This includes Fox Sports who receives a broad range of international sports programming via C-Band downlinks and relies on those links to bring in major and niche sporting events from Europe, Asia and the UK.

ASTRA members will continue to make extensive use of C-Band downlink earth stations to receive a broad range of diverse international programming, well into the lifespan for 5G mobile standards.

Program streams currently downlinked for broadcast to Australians on the Foxtel platform include CNN, BBC World News, CNBC, various Discovery channels, Bloomberg and Eurosport news. Note that some of these signals are also on-supplied to other television providers in Australia, such as Fetch TV.

### Sharing arrangements

Acknowledging the need to accommodate competing demands for spectrum, ASTRA supports access to the Band by new services and applications, and the development of sharing arrangements to support access to the Band for both FSS earth stations and other services. However ASTRA's support for this access is strictly contingent upon continued interference protection for incumbent FSS earth stations in the Band, given both the plethora of services provided via these stations, and the unique suitability of C-band spectrum for those services.

ASTRA's position on each of the alternative planning arrangements for the Band as identified at page 21 of the Paper is listed below:

Proposal	ASTRA position
Development of arrangements to support access to the entire 3700–4200 MHz band for both FSS earth stations and other services. This could be on a first-in-time coordinated basis or via the implementation of dynamic sharing techniques	In principle support – as long as this protects licensed FSS earth stations.  Note ASTRA has concerns about the investigation of more intense sharing techniques based on DSA due to the potential for interference to existing satellite services. Therefore ASTRA supports considering sharing options on a geographic basis, particularly given the higher incidence of FSS earth station in metro areas and in particular in the Sydney metropolitan area.
Restacking some or all licenced FSS earth stations into one or more segments of the 3700–4200 MHz band in defined areas (such as significant population centres). The other part or parts of the band could be considered for use by other services	Do not support and do not consider practical. Our members do not control the satellite transponder frequencies used by international broadcasters.
Relocating some or all licensed FSS earth stations in defined geographical areas (such as significant population centres) to one of the ESPZs defined in RALI MS44.	High cost approach. Do not support.
Relocating services to a different band, such as Ku band where possible, or moving to an alternate delivery technology, such as fibre	Ku Band unreliable due to its susceptibility to rain fade. Whilst some feeds have moved to fibre, once again this is the choice of the contributing international broadcaster and usually makes economic sense if the feed is unicast. Satellite generally provides a more economical solution for feeds going to several broadcasters particularly if across a whole region (eg. SE Asia).

ASTRA's responses to the relevant specific questions contained in the Discussion Paper are provided in Attachment A to this submission.

If you have any queries or would like to discuss the issues raised in this submission, please contact me ([Holly.Brimble@foxtel.com.au](mailto:Holly.Brimble@foxtel.com.au)).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Holly Brimble'. The signature is fluid and cursive, with the first name 'Holly' and the last name 'Brimble' clearly distinguishable.

Holly Brimble  
Policy and Regulatory Manager

## **Attachment A - Issues for comment**

Below ASTRA responds to several of the specific questions contained in the Discussion Paper.

**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?**

Clearly there is high usage in Sydney. Refer Appendix 2 figure 17.

**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?**

There are no viable alternatives to C-band when the criteria is high reliability (i.e. not subject to rain fade) and international regional coverage e.g. the SE Asia region.

**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?**

Any WBB deployment in the 3700-4200 Band should be strictly limited with the emphasis on protection of incumbent C-Band services.

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

Any new service should provide adequate protection to existing C-band services. ASTRA members will continue to make extensive use of C-Band downlink earth stations to receive a broad range of diverse international programming, which is highly valued by Australian viewers.

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

Preferably limited to the 3700 to 3800 MHz range to lessen the probability of interference to existing services.

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

Not in Sydney Metro. This area already has high density use by existing point-to-point links and FSS earth stations in the Band (refer to Appendix 2 figure 17 of the Paper).

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

There should be no class licencing. Spectrum or apparatus with the emphasis on coordination with existing licenced C-band services.

**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?**

Licencing of new services in the 3700 to 3800 MHz band should offer the same interference protection regime to existing licenced C-Band services as licences in the 3400 to 3700 MHz Band.