

Allocation of 24-30 GHz spectrum

28 November 2025

C H ● R U S

Introduction

1. This is Chorus' submission on *Allocation of 24 – 30 GHz spectrum: Technical discussion document*, dated 17 October 2025. This submission is not confidential.
2. As the owner and operator of New Zealand's largest open access fibre network, Chorus has a strong interest in ensuring that spectrum policy supports efficient infrastructure investment. It is important that scarce spectrum resource is allocated in a way that best supports technological innovation, business growth and consumer welfare, in line with international trends.
3. The consultation paper proposes that the following spectrum use will be permitted:
 - 1.1 In the 26 GHz band: Mobile systems (eg mmWave 5G NR, fixed wireless access (FWA)); and space-to-Earth satellite services at specific locations
 - 1.2 In the 28 GHz band: FSS (Earth to space) satellite services; and, in the lower 28 GHz band only, shared use of mobile systems in urban areas.

Allocation of the 26 GHz band

4. We support RSM's intent to auction management rights for the 26 GHz band.¹ At the appropriate time the spectrum should be auctioned to ensure it is allocated to users who place the highest value on the spectrum. It should not be given away or be otherwise linked to a separate agreement between the government and industry participants, as that can distort the market and undermine competition (eg between wireless and fixed line broadband).
5. RSM states, given current demand, further consideration of the assignment process and related conditions will be delayed until 2028-2030, after which spectrum will be made available.² Our understanding is that the delay to 2028 is because RSM does not foresee any demand for the spectrum until 2028 at the earliest.
6. The most viable use-case for 26 GHz spectrum is to provide high volumes of capacity in confined crowded spaces where large numbers of people or machines want to access wireless data at the same time. These are locations such as sports stadiums, transport hubs, major concert venues and industrial locations. Recent allocation decisions for this band in other countries have focused on this use case. We note that mobile is not the only way to meet such needs – for example, some international venues are using wi-fi to provide this service³ – and spectrum should be allocated to support both customer service options.⁴
7. mmWave technology is best suited to very short-range applications. These are still emerging in New Zealand and globally, and it is sensible to reserve spectrum to

¹ Discussion document, page 23.

² Discussion document, page 2.

³ <https://www.manutd.com/en/news/detail/stay-connected-at-old-trafford-with-extreme-networks-man-utd-wi-fi-partner>

⁴ For example, if the 26 GHz band is allocated to mobile, another band (or bands) should be made available to support wi-fi services.

support such innovation as the market matures. Premature allocation risks locking out future, higher-value use cases and users.

8. Given the limited current use cases for the 26 GHz band in New Zealand, we suggest this technical consultation may be premature. We recommend RSM delay decisions about spectrum allocation and technical arrangements until closer to the time the spectrum will be auctioned. New use cases could emerge, or a different balance in demand between mobile, satellite and private network services could become apparent. We encourage RSM to consider whether it should pause this process until it can review international trends and developments in New Zealand demand/use cases in, say, 2-3 years.
9. If RSM proceeds with the licensing regime as envisaged in the discussion document, we agree that the optimal allocation is to make the spectrum available on an area or licensed basis using Crown Management rights.⁵ Licensing national rights to the spectrum would not be appropriate as there is no indication that a nationwide service is likely to be offered in the 26 GHz band. MNO coverage map tools indicate that 5G (mid-band) coverage is extremely low compared to low-band 4G.⁶ mmWave coverage will be significantly less and thus lends itself to non-contiguous specific use cases.
10. Of the three options for awarding Crown management rights considered in the discussion document, option a (auction licenses on an individual basis, where bidders simultaneously bid for specific frequencies and specific locations) is likely to be optimal. Given the limited use cases, demand is likely to focus on specific locations, and the licensing regime should reflect this.

Allocation of the 28 GHz band

11. Chorus supports the use of Ka-band satellite services in rural and remote areas where fibre is not available. Satellite provides a viable alternative for connectivity in hard-to-reach locations and complements the national fibre network.
12. For the 28 GHz band, we agree there is value in making spectrum available for ESIM and other satellite services that can support consumers in remote rural areas, for whom satellite services is one of the best options for accessing better quality broadband.

Synchronisation

13. Finally, services supplied over higher spectrum bands will require increasingly accurate timing, which is likely to require a fixed network solution to augment and replace current satellite-based timing synchronisation. As the largest telecommunication infrastructure provider in New Zealand, Chorus will look to support industry in ensuring accurate timing solutions are available over our national infrastructure.

⁵ Discussion document, page 24.

⁶ <https://www.spark.co.nz/shop/mobile/network/> ; <https://www.2degrees.nz/coverage> ; <https://one.nz/network/coverage/>

Answers to selected questions

Q1. Do you agree with RSM's proposed new spectrum uses outlined in Section 1.1? If not, provide details on the modifications you wish to propose with appropriate reasoning.

14. We agree with the spectrum uses outlined for the 28 GHz band. We consider the spectrum uses outlined for the 26 GHz band are uncertain at this time and, as discussed above, RSM should delay decisions on spectrum allocation as there is no strong demand for this band at present.

Q15. What type of TDD synchronisation options would you prefer and why? Do you prefer to have a default frame structure? What do you consider the underlying technical conditions to manage the any potential interference should be?

15. Synchronised mode is likely to be needed in urban areas, with semi-synchronised in rural areas where there is more distance between sites. A guard period will be needed to avoid interference. Implementing G.8275.1 network-based synchronisation can enhance timing accuracy and improve overall network efficiency, particularly in managing interference. Chorus has been investing in implementing G.8275.1 in its network, meaning we are well placed to support terrestrial-based synchronisation to support resiliency.