

SpaceX Response to the **Interim
arrangements for W-band fixed satellite
service earth station transmitters**
in Australia held by the Australian
Communications and Media Authority

Submitted Via Online Portal to the ACMA

Representing Organization

Space Exploration Technologies Corp (SpaceX)

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]



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Australian Communications and Media Authority
PO Box 78
Belconnen ACT 2616

SUBJ: SpaceX Response to W-band Consultation

Starlink Australia Pty Ltd ("SpaceX" "Starlink") supports the ACMA's initiative to establish interim arrangements for the use of W-band (92.0-94.0, 94.1-95, 95-100, 102-109.5, 111.8-114.25 GHz) by Fixed Satellite Service ("FSS") earth-station transmitters. The ACMA's innovative and forward-looking approach to spectrum management has already enabled Starlink to expand its ground station capabilities and leverage both the Ka and E-band at several locations country-wide, representing tens of millions of dollars in infrastructure investment to Australian industry, including local telcos, fiber partners, and construction firms. This interim W-band arrangement will further solidify Australia's stance as a global leader in enabling next-generation satellite broadband capabilities and unlock further benefits for all Australian users and businesses.

As outlined in Starlink's response to the ACMA's consultation paper on its Five-Year Spectrum Outlook 2025-2030 "FYSO", the Starlink V3 system update will deliver the highest speed, lowest latency Starlink service to date, with the goal of setting a new standard for satellite broadband. Compared to the current second-generation satellites, Starlink's V3 satellites will deliver more than 10x the downlink and 24x the uplink capacity on a per-satellite basis, while operating in a safer, more sustainable orbit with improved orbital reflectivity. To enable V3 satellite side capabilities on the ground, Starlink is also developing a quad-band gateway antenna to nearly triple the total throughput possible at a Starlink gateway site. These new antennas will utilize under-used, higher-range frequencies in the Ka-, Q/V-, E-, and W-bands, which will enable high data-transfer rates with highly directional, narrow beams. Over 50% of the anticipated backhaul of these new antennas will be carried through beams in the W-band range in the earth-to-space direction. Access to the "V3" spectrum coupled with efficient new EPFD limits in the lower frequencies would unlock the full potential of Starlink's new satellites, with significant tangible benefits to Australian users.

Enabling FSS earth stations to use the W-band for uplink presents low interference risk due to narrow-beam, high-directivity antennas, high atmospheric attenuation, and extremely limited incumbent use above 90 GHz. We support the ACMA's identification of Sydney, Melbourne, and Perth as initial locations suitable for W-band earth-station operations and agree that these areas present a low likelihood of harmful interference given their existing spectrum environments and established gateway footprints. These locations provide a practical foundation for early W-band deployments while international rulemaking continues to mature. At the same time, we note that the technical characteristics underpinning coexistence in Ka, Q/V and E-band operations apply equally to W-band systems. As the ecosystem develops, future W-band gateways in additional regions should therefore be capable of coexisting with incumbent and emerging services and operating on a non-interference basis in the same way that Starlink's gateways already do today. We therefore look forward to continued engagement with the ACMA to similarly enable additional deployment locations Australia-wide for the W-band in the near future.

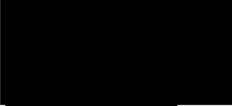


Interim W-band access is essential to support Australia's growing demand for resilient, low-latency satellite services. It unlocks significant local investment, accelerates deployment of new advanced gateway sites, and strengthens backhaul for broadband and enterprise services. The proposed framework is practical, globally aligned, and consistent with the ACMA's demonstrated leadership in enabling innovative satellite technologies for the benefit of all Australians. We strongly support its adoption and welcome further collaboration with the Authority as the international community advances its position on W-band.

In Annex A of this submission, we summarize our views about the specific matters the ACMA will consider when determining whether the W-band may be used for FSS earth-station transmitters (being an unspecified service).

This submission is made on a public basis. Please feel free to reach out to us directly for further information.

Sincerely,





Annex A - relevant matters

We understand that the ACMA will consider the following matters as relevant when considering whether the W-band may be used for FSS earth-station transmitters (being an unspecified service), as set out in the ACMA's current policy for considering requests concerning the operation of unspecified services under section 10(10) of the Australian Radiofrequency Spectrum Plan. Our responses are set out below.

Key principle	Application
The potential impact on, and interference to, existing assignments, and existing services in general	<p>Starlink is not aware of any impacts on, or interference with, existing assignments or services.</p> <p>Incumbent use is extremely limited. To the extent there is existing use, interference risk is limited by the use of narrow-beam, highly directional antennas and high atmospheric attenuation.</p>
Whether special conditions could or should be imposed upon licences issued in the unspecified service to mitigate potential adverse impacts on existing services	Starlink is comfortable with the conditions proposed by the ACMA.
The potential impact on future assignments	Starlink is not aware of any potential impact. Starlink is very interested in future broader assignments in the W-band. These can be considered in the near future and need not affect any interim allocation.
Whether the service will constitute an efficient and effective use of spectrum	Yes. The proposed use, particularly in the context of the quad-band capability of our V3 satellites, is efficient and effective.
The views of potentially affected licensees	As noted above, existing use is very limited.
Whether there may be other ways to accommodate the proposed service	Starlink is not aware of any other suitable ways.
The public interest or benefit in facilitating the operation of the proposed service	Facilitating the operation of services using the W-band for FSS earth-station transmitters would promote significant local investment, allow the establishment of new advanced gateway sites and strengthen backhaul capability that supports users of broadband and enterprise services.