

CONFIDENTIAL

**CONSULTATION PAPER ISSUED BY
THE INFO-COMMUNICATIONS MEDIA DEVELOPMENT
AUTHORITY
ON
PROPOSED ALLOCATION OF 6 GHZ BAND IN SINGAPORE**

**Submission by StarHub Mobile Pte Ltd to the
Infocomm Media Development Authority**

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Contact Details:	StarHub Mobile Pte Ltd 67 Ubi Avenue 1 #05-01 StarHub Green Singapore 408942 Phone: +65 6825 5000 Fax: +65 6721 5002 Tim Goodchild Email: timothy@starhub.com
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Introduction:

1. StarHub Mobile Pte Ltd ("**StarHub**") thanks the Info-comm Media Development Authority of Singapore (the "**Authority**") for providing the opportunity to comment on its proposal to allocate the lower 500 MHz of the 6 GHz band (5,925 MHz – 6,425 MHz) (the "**lower 6 GHz band**") for RLAN / Wi-Fi use.
2. In general, StarHub has no objections to the Authority's proposal. However, we note that the 6 GHz band has been designated as an International Mobile Telecommunications ("**IMT**") band. By allocating the lower 500 MHz of the band for RLAN / Wi-Fi use, the Authority will need to ensure that proper protection mechanisms are in place to prevent interference to the upper 500 MHz of the 6 GHz band (6,425 MHz – 7,125 MHz) (the "**upper 6 GHz band**"), should this band be subsequently released for mobile services in Singapore.
3. StarHub's detailed response is set-out below.

StarHub's Detailed Response to the Authority's Proposal:

4. As part of 3GPP Release 17, the upper 6 GHz band was designated as New Radio ("NR") Band 104. In designating NR Band 104, the 6 GHz band was recognised as one of the ideal medium frequency bands to provide both high capacity and wide area coverage. At the same time, the lower 6 GHz band has also been earmarked for IMT as part of 3GPP Release 18, which is scheduled for finalisation in 2024.

5. As there will be some time before 3GPP Release 18 is finalised, mobile equipment operating in the lower 6 GHz band is unlikely to be available within the next few years. In comparison, we understand that Wi-Fi equipment operating in the lower 6 GHz band may be available in the nearer term.

6. As such, we have no objections to the Authority allocating the lower 6 GHz band for RLAN / Wi-Fi use at this time.

Future allocation of upper 6 GHz band:

7. However, given the earlier designation of NR Band 104, this is a potential band that could be allocated for 5G use in Singapore. As such, there is a need to ensure that any RLAN / Wi-Fi equipment in the lower 6 GHz band does not cause interference to mobile equipment operating in the upper 6 GHz band. This could be done, for example, through the use of guard bands between the upper and lower portions of the 6 GHz band.

8. Nonetheless, as the technology usage in the 6 GHz band is nascent, there is no firm industry recommendation on the appropriate protection mechanisms at this time. Further guidance needs to be taken from the upcoming World Radio Conference 2023 ("WRC 2023") as well as future industry standardisation discussions.

Conclusion:

9. In summary, StarHub's key points are as follows:

- We have no objections to the Authority's proposal to allocate the lower 6 GHz band for RLAN / Wi-Fi use, as IMT standards for this spectrum have not yet been finalised.
- However, the 6 GHz band has been earmarked as an ideal band for IMT services, and the Authority may consider allocating the upper 6 GHz band for 5G services in future. Should this be the case, appropriate guard bands (or other protection mechanisms) will need to be implemented between the lower and upper portions of the 6 GHz band to prevent interference with mobile equipment.
- As technology in the 6 GHz band is nascent, guidance on the appropriate protection mechanisms should be taken from the upcoming WRC 2023, and future industry standardisation discussions.

10. StarHub is grateful for the opportunity to comment on this matter and we sincerely appreciate the Authority's consideration of our comments.