

The Manager
Spectrum Planning Section
Australian Communications and Media Authority
PO Box 78
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ACMA Consultation: [IFC 37/2021](#) - Radio local area networks (RLANs) in the 6 GHz band

CSIRO Comments

Dear Manager,

CSIRO thanks ACMA for the opportunity to comment on the ACMA Consultation: [IFC 37/2021](#) - Radio local area networks (RLANs) in the 6 GHz band .

CSIRO is responsible for the management and operation of the Canberra Deep Space Communication Complex (CDSCC) and other NASA facilities in Australia under a government to government treaty between Australia and the USA as well as a Cooperating Agency Agreement between CSIRO and NASA. CSIRO is also responsible to manage the operations of the European Space Agency (ESA) space research activities in Australia, including the operation of the Space Research Services (SRS) earth station at New Norcia in W.A. under the provisions of a long-standing Treaty between the Australian government and ESA. CDSCC and New Norcia are both integral and vital parts of the respective global networks represented as NASA's Deep Space Network (DSN) and ESA's tracking network (ESTRACK), respectively. Each provide ongoing and invaluable contributions to international space exploration. They both comprise substantial earth station assets developed over 50 years of cooperation including very large antennas at the NASA CDSCC facility and ESA New Norcia facility, enabling tracking of a very large and growing multitude of international Near-Earth and Deep-Space space research missions representing spacecraft assets in excess of \$35 Billion dollars. Additionally, both NASA and ESA continue to invest substantial sums of money in expansion and upgrade projects to maintain a world leading space research and exploration capability in Australia. The capability for these stations to continue their space research work, under local management by CSIRO, is critically dependent on the ongoing unconstrained access to the radiocommunications assignments licensed with the ACMA, as has been the case for over 50 years.

CSIRO Comments.

CSIRO thanks ACMA for this invitation to comment on proposals in the consultation document titled "Radio local area networks (RLANs) in the 6 GHz band - consultation 37/2021". While the main focus

of the paper relates to possible LIPD operations in the lower part of the 6 GHz band (5925–6425 MHz), there are also a range of initial ideas scoped for consideration in the upper 6 GHz band (6425–7125 MHz) for higher power devices for possible use for IMT and/or RLANs. CSIRO do not have any comments related to the lower 6 GHz band, but offer some comments directed to the later consideration (in a future ACMA public consultation document) of the range of possible usages of this 6 GHz upper band.

Upper 6GHz Band (6425 – 7125 MHz).

Under “Issues for Comment” CSIRO offers two comments under the scope of the following ACMA invitation on page 21:

- “Are there additional sharing scenarios and/or studies relevant to this band that have not been identified in this paper?”

The first of CSIRO’s comments are directed to sharing scenarios between the proposed high power RLAN services in the 6425 – 7125 MHz band and existing Space Research Service (deep space) allocation and operation in the near adjacent 7145 – 7190 MHz band (only a 20 MHz buffer). CSIRO believe that the foreshadowed future consultation related to the upper 6GHz band must address the possible adjacent band service sharing considerations with a view to the protection of these new RLAN systems in the upper 6 GHz band from the high power (up to 80kW) Space Research Service (SRS) X-band uplinks in the 7145 – 7190 MHz band from the ESA and NASA Earth stations at New Norcia and Tidbinbilla, respectively. These Earth-to-space uplinks are critical to support the unconstrained support of current and future deep space (space research service) missions, but their proximity to the proposed new applications for RLANs could potentially create interference issues for the RLAN systems.

Therefore, CSIRO requests that ACMA take into account the need to consider the potential for SRS high power SRS (deep space) interference into RLAN systems that may be legislated for licensed operation in the vicinity of these SRS Earth stations at both New Norcia, W.A. and Tidbinbilla in the ACT. CSIRO suggests that ACMA, in progressing this suggested subsequent public consultation, consider implementation of either an RLAN exclusion zone around these Earth stations and/or the inclusion of license conditions on these RLAN systems stipulating that their operation is on a non-interference and no protection basis within a range/radius that will need to be determined by technical studies. Prospective licensed operators of RLANs must consider this in their system designs and understand that their operations are conditional on a no protection basis and they cannot constrain the unfettered operations at these SRS stations.

The second matter that CSIRO suggests should be included as a relevant consideration in a future upper 6 GHz RLAN public consultation document are the provisions of Footnote RR **5.458**, which state:

“5.458 In the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075-7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6 425-7 075 MHz and 7 075-7 250 MHz.”

Conclusion.

CSIRO offers these comments, noting ACMA's statement on page 17 that "The next key decision to be made regarding use of the 6 GHz band is what (if any) changes should be made to arrangements in the upper 6 GHz band (6425–7125 MHz)." ACMA acknowledged the diversity of views on the upper 6 GHz band and state that "further consultation will be necessary before making any new arrangements".

Accordingly, CSIRO presents the above comments as constructive contributions for inclusion in a foreshadowed ACMA proposal to address the options for the upper 6 GHz band in a future public consultation round in the future.

Thank you for the opportunity to consider and comment on the ACMA IFC 37/2021.

Yours Sincerely,



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