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May 5, 2021

The Manager
Spectrum Planning Section
Australian Communications and Media Authority
PO Box 78, Belconnen ACT 2616
AUSTRALIA
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Re: DSA Comments to the Public Consultation on "RLAN use in the 5 GHz and 6 GHz bands - consultation 12/2021".

Dear Sir/Madam,

The Dynamic Spectrum Alliance (DSA[1]) respectfully submits its comments in response to the Public Consultation on "RLAN use in the 5 GHz and 6 GHz bands - Consultation 12/2021".[2]

DSA respectfully suggests that ACMA consider: (1) dedicating the entire 1200 MHz (5925-7125 MHz) of the 6 GHz band for unlicensed use, taking advantage of the full potential of this band; and (2) authorizing the three categories of license-exempt devices: (i) Very Low Power (VLP) devices, (ii) Low Power Indoor (LPI) devices, and (iii) Standard Power (SP) devices that can operate both outdoors and indoors. The arguments in support of these recommendations will be explained below in our answers to the questions raised in the consultation.

DSA appreciates the opportunity to participate in the consultation and to present our views and comments on the reference document. We are available to discuss these comments and provide any additional information.

Respectfully submitted,

Martha SUAREZ
President
Dynamic Spectrum Alliance

[1] The DSA is a global, cross-industry, not for profit organization advocating for laws, regulations, and economic best practices that will lead to more efficient utilization of spectrum, fostering innovation and affordable connectivity for all. Our membership spans multinationals, small-and medium-sized enterprises, as well as academic, research and other organizations from around the world all working to create innovative solutions that will benefit consumers and businesses alike by making spectrum abundant through dynamic spectrum sharing. A full list of DSA members is available on the DSA's website at www.dynamicspectrumalliance.org/members

[2] Available online at https://www.acma.gov.au/consultations/2021-04/rlan-use-5-ghz-and-6-ghz-bands-consultation-122021

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DSA COMMENTS

1. What is the demand for spectrum for RLAN use in the 6 GHz band (5925–7125 MHz)?

The 2017 Wi-Fi Alliance study cited in the consultation document identified a spectrum gap of well over 1 GHz by 2025 in the 'high demand' scenario, if there is not greater utilization of the 5 GHz bands requiring Dynamic Frequency Selection.

By every measure, the demand for spectrum for RLAN use continues to grow unabated, driven largely by mobile video. RLANs have many unique uses in residential and enterprise settings but also support licensed use. In fact, "Wi-Fi" offloading has increased with each generation of mobile wireless service. According to the Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2017–2022 White Paper, Wi-Fi offloading has increased from 30 percent of the traffic for 2G phones to 40 percent of the traffic on 3G phones, 59 percent of the traffic on 4G phones, and is expected to transport 71 percent of the traffic on 5G phones. There is an insufficient amount of 5 GHz spectrum in Australia to meet this demand as most sub-bands where a LIPD class license is available come with lots of restrictions attached to protect incumbents. Even an additional 500 MHz in the 6 GHz will not fully address this demand.

As broadband speeds to a residence continue to increase, a bottleneck is starting to appear in the link from the home's Wi-Fi access point to the user's Wi-Fi enabled device, especially in households where there are multiple Wi-Fi enabled devices in operation at the same time. This has become more evident globally during the time of the COVID pandemic. As parents work from home and children learn remotely, there are often multiple video conference applications open on multiple devices concurrently. This can amount to a considerable amount of RLAN bandwidth. If ACMA makes available a LIPD class licensed across the entire 5925-7125 GHz band, it would allow it to get out in front of this issue and ensure that the link from the homes access point to the Wi-Fi enabled device does not become the bottleneck in Australian residences.

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2. Should the ACMA proceed, as proposed, to consult on a formal variation to the LIPD class licence that adds the frequency range 5925–6425 MHz for RLAN use, bounded by the parameters described in the ACMA's preliminary view section of this paper?

The ACMA should proceed in making the entire 5925-7125 MHz frequency range available for RLAN, and other (unlicensed or licensed-exempt) uses now on a technology neutral basis. As described in DSA's response to Question 1, making an additional 500 MHz available under a LIPD class licensed is insufficient to meet the identified demand for RLANs even in the mid-term. And as DSA's describes below in its response to Question 4, as Australia is in ITU Region 3, there is no good reason to defer such action. Australian residents and business would miss out on the benefit of having 1200 MHz of LIPD.

The DSA supports three categories of LIPD RLAN devices. These are low power indoor (LPI) devices, very low power devices (VLP), and standard power devices under control of an automated frequency control ("AFC") systems. In ACMA preliminary view it proposes: 24 dBm (11 dBm/MHz), if only used indoors (LPI) and 14 dBm (1 dBm/MHz) in all locations (VLP).

The DSA understands that the United States' approach to the LPI is to have a constant Power Spectral Density (PSD) limit and let the EIRP limit scale with channel bandwidth. Under this approach the largest size channel, in this case the 320 MHz-wide channels planned for the IEEE 802.11be standard under development, would have the highest EIRP limit and the 20 MHz channel would have the lowest EIRP limit. The rationale behind this approach is encourage use of larger channels for multi-gigabit, low latency RLAN applications that will have a lower duty cycle and can travel through one wall. The other consideration in the United States is that the LPI client PSD limit is 6 dB below that of its access point. Under the United States rules, the PSD for a LPI access point is limited to 5 dBm / MHz and the EIRP limit for a 320 MHz channel is 30 dBm. The LPI client is limited to 24 dBm EIRP. One concern is that in the upper portion of the 6 GHz, the path losses are higher, which means that under the current limits, the range of an LPI access point will be reduced as well as its throughput, particularly if the communication link between an LPI access point and an LPI client is through one wall. For this reason, the United States regulator is currently evaluating whether to increase the PSD limit of LPI devices to 8 dBm/MHz/ (while ensuring the protection of incumbent operations).

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The 24 dBm EIRP limit proposed herein will ensure that communications between 20 MHz and 40 MHz channels and their clients will have a strong enough signal get through at least one wall. Assuming the 11 dBm/MHz PSD limit applies to a 20 MHz channel, the PSD limit is reduced to 8 dBm/MHz for a 40 MHz channel, 5 dBm/MHz in an 80 MHz channel, 2 dBm/MHz for a 160 MHz channel and -1 dBm/MHz for future 320 MHz channel sizes. For the larger channel sizes, which is the unique value propositions of Wi-Fi 6e (and the future Wi-Fi 7), the range and throughput may be limited and not allow the devices and applications to live up to their potential. The Ideally, ACMA will permit LPI client devices to operate with the same EIRP limit as the LPI access point. If the signal is too weak, additional equipment (at a business) or signal extenders (in a home) will likely be required. The cost of the additional equipment or signal extenders will impact Australian consumers and businesses differently.

The DSA supports ACMA's proposal for 14 dBm EIRP limit and 1 dBm PSD limit for VLP devices. Although the same PSD scaling issues exists as described above for the larger channel sizes, because VLP device are envisioned to be used for short range personal area networks, it is not going to have the same impact.

3. If class licensing arrangements are to be made in the lower 6 GHz band (by variation to the LIPD class licence), should alternative/additional power limits and/or other conditions be considered?

If ACMA intends on following the European approach in the 6 GHz band, the DSA suggests that it sets it increases its EIRP limit for LPI access points to 30 dBm, while maintaining its 11 dBm / MHz PSD limit. Such an increase will enable high throughput, low latency applications on the 80- and 160 MHz wide channels without the need to add repeaters of additional equipment, depending on whether the operator is a resident or at a business.

Even though, the DSA support ACMA's VLP proposal, we suggest that it consider the reasoning behind why Brazil permitted VLP operations at 17 dBm. The proposed VLP EIRP limit of 14 dBm in some Administrations are the same as that for short range devices. Consequently, the regulatory hurdles to implement rules for devices at this EIRP are lower. The question ACMA should consider is whether

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indoor and outdoor VLP operations at 17 dBm are likely to cause harmful interference to incumbent operations in the band.

4. **Is it appropriate to consider inclusion of the upper 6 GHz band (6425–7125 MHz) in the LIPD class licence or should this be deferred to monitor future developments (for example, in the wide-area International Mobile Telecommunications (IMT) space) as outlined in the ACMA's preliminary view? We invite comments from submitters on the utility of the band for IMT use.**

ACMA should consider inclusion of the upper 6 GHz band (6425-7125 MHz) in the LIPD class license concurrent with its consideration of the lower 6 GHz band (5925-7125 MHz). There are several reasons for why ACMA should pursue this approach.

(1) The entire 1200 MHz of spectrum in the 6 GHz band (and then some) is required to meet the spectrum needs to meet the projected demand for mid-band unlicensed / licensed-exempt spectrum for RLANs and other uses. It would also support future Wi-Fi 7 devices feature 320 MHz wide channels. Only one 320 MHz channel is possible if only the lower 500 MHz is made available for a LIPD class license. Alternatively, three non-overlapping 320 MHz channels will be supported if the entire 1200 MHz of the 6 GHz band is made available for a LIPD class license. DSA believes that the highest and best use for this band is for Wireless Access Systems including Radio Local Area Networks (WAS/RLAN). WLAN/RLAN are expected to carry offload from cellular 5G technologies (total data offload to unlicensed going from 74% to 79% in 2022).[3] This will lower the costs of network deployment for mobile operators and for edge investment by neutral host and third-party providers. Importantly, it will also lower costs for consumers. The effect of enabling additional spectrum for Wi-Fi will also be relevant for launching IoT services. LIPD class license in the entire band brings the opportunity for more effective spectrum use allowing support for new applications and laying the foundations for innovation.[4]

[3] *See* Cisco Systems, Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2017-2022. (link)

[4] *See* "The crucial decision of enabling better and affordable connectivity through Wi-Fi and spectrum sharing", December 2020 (link)

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(2) Meeting the increased demand for Internet access in light of the COVID-19 situation. The importance of WAS/RLAN use and substantial amount of Wi-Fi carried traffic has been exemplified during the COVID-19 lockdowns worldwide. The flexibility of Wi-Fi and the benefits it brings to digital economies have proven to be essential during the COVID-19 pandemic.[5]

(3) More efficient use of the spectrum. WAS/RLAN can operate in the band while ensuring that existing incumbent services can continue to thrive in the band. The 6 GHz band is allocated to a range of services, including fixed satellite services, fixed services and mobile service with some applications, such as electronic news gathering. Devices covered under a LIPD class license in Australia cannot cause harmful interference to incumbents and cannot claim protection from harmful interference. Permitting RLANs and other devices under a LIPD class licensed in the entire 6 GHz band will not only open the door to innovation by offering extra capacity but can be introduced while protecting and still allowing the incumbent services to grow. Introduction of unlicensed services will not necessitate a spectrum clearance process which would likely be complex and expensive. The LIPD devices will be able to share the band with the incumbents and this will significantly increase spectrum efficiency. In the U.S. there was a request of making portions of the 6 GHz band available for new licensed services.[6] The FCC declined that request of repurposing significant portions of the 6 GHz band for exclusive, flexible use licenses and relocating affected incumbent services to other frequency bands, because such an approach would undermine their goal of creating significant new opportunities for unlicensed operations across the 6 GHz band, and would run contrary to their approach in ensuring that existing incumbent services can continue to thrive in the 6 GHz band.

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[5] *See* "Covid-19 and the economic value of Wi-Fi. Katz", Jung and Callorda, December 2020.

[6] See FCC R&O, 203-205: "*204. CTIA requests that the "upper portion" of the 6 GHz band be repurposed for new licensed services, while Ericsson specifically requests that both the proposed U-NII-7 band (6.525 6.875 GHz) and U-NII-8 band (6.875-7.125 GHz) be repurposed"… "they suggest that other bands may be available as a new home for incumbent operations that would need to be relocated." … "Representatives of incumbent services that would be affected, including the Fixed Wireless Communications Coalition, the Critical Infrastructure Coalition, NPSTC, Intelsat and SES Americom, and Sirius XM, also strongly oppose repurposing that would affect their operations."*
"205. We decline the requests that we repurpose substantial portions of the 6 GHz band for new licensed services in place of new unlicensed operations and existing incumbents.", available online at https://www.fcc.gov/document/fcc-opens-6-ghz-band-wi-fi-and-other-unlicensed-uses-0

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This comments in the FCC docket show the traditional IMT entry in a band approach, which usually leads to the clearing of the band, wherever possible, and relocation of the incumbents. Sharing occurs where and when there is no alternative. As IMT identification would always come with primary mobile allocation, the future growth of the other remaining primary services in the band will be constrained at a minimum.

(4) As RLANs can work with any backhaul – mobile network, cable, fibre, fixed wireless access, satellite, having all 1200 MHz available will support competition across platforms and providers. There have been important public programs and initiatives to increase Wi-Fi hotspots like it is the case of the WiFi4EU[7] in Europe, the WiFi4EU initiative aims to provide high-quality Internet access to citizens and visitors across the EU via free of charge Wi-Fi hotspots in public spaces such as parks, squares, administrations, libraries, and health centres. It has revealed a strong and local demand for the expansion of Wi-Fi services in order to foster the local e-commerce economy, support tourism, and increase the availability of local public services to citizens. This type of initiatives occurs not only in Europe or in urban areas. If we refer to remote areas, connectivity and cost-efficiency is best achieved by benefiting from scale inherent in globally adopted Wi-Fi standards, which mean lower cost of coverage for low-population density areas and lower cost of terminals.

The ITU-D Study Group on Broadband development and connectivity solutions for rural and remote areas, in its annual deliverable 2019-2020 has recognized that "Wi-Fi hot spots and local area networks, which can be installed at rural points of community activities, including shopping centers and university campuses, can serve a variety of users. These are also suitable for homes, where all family members can access Wi-Fi connectivity. Wi-Fi technologies are very effective if the backbone landing is not far from the locality and can be used to create a mesh network."[8] According to the report, in India,[9] several rural

[7] *See* https://ec.europa.eu/digital-single-market/en/wifi4eu-free-wi-fi-europeans

[8] Annual deliverable: "Broadband development and connectivity solutions for rural and remote areas". Question 5/1 Telecommunications/ICTs for rural and remote areas. ITU-D (link).

[9] Presentation by Mohit Bansal at the workshop on broadband development in rural areas hosted by the Question 5/1 Rapporteur Group,25 September 2019 (link).

areas have been connected using Wi-Fi, as a last-mile connectivity solution. In Zimbabwe,[10] the community information centers constructed by the universal services fund of the country use Wi-Fi technology.

(5) Allowing Wireless Internet Service Providers (WISPs) to deploy gigabit class networks. As described in greater detail in DSA's response to Question 5, if all 1200 MHz is made available under a LIPD class license, WISPs can either provide additional bandwidth to each of its customers served by a single base station or cover mover residential customers with each base station.

(6) WRC-23 is considering an IMT identification for 6425-7025 MHz in ITU Region 1 only and 7025-7125 MHz globally. Australia is in ITU Region 3. First, there is no way of knowing in advance whether WRC-23 will identify the 6425-7025 MHz band for IMT in Region 1 or 7025-7125 MHz globally. In fact, the sharing and coexistence studies for the current study cycle have not begun. Previous studies conducted between IMT and the Fixed Satellite Service in the 6 GHz did not support coexistence. Whether Advanced Antenna Systems turns out to be the elixir that allows previous views to be significantly changed, is to be determined. Additionally, not all sub-regions and Administrations within ITU Region 1 were supportive of studying the 6425-7025 MHz band for potential IMT identification heading into WRC-19. The DSA expects some of these Administration to pursue making the entire 1200 MHz available for RLAN, 5G NR-U, and other unlicensed / licensed exempt uses, prior to WRC-23.

On the other hand, there is considerable global momentum to make the entire 6 GHz band available for unlicensed / licensed-exempt use. In the Americas, the United States, Brazil, Chile, Peru, Costa Rica, Honduras, and Guatemala have already permitted unlicensed / licensed-exempt use across the entire 6 GHz band. Canada, Mexico, and Colombia had consultations that proposed to make the entire 1200 MHz available for unlicensed / licensed-exempt use. Other Administrations that have permitted unlicensed / licensed-exempt use across the entire 6 GHz band include South Korea and Saudi Arabia.

[10] Presentation by Batsirayi Mukumba at the workshop on broadband development in rural areas hosted by the Question 5/1 Rapporteur Group, 25 September 2019 (link).

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(7) Wi-Fi 6E chipsets and products are already available with 28 certified devices operating in the 1200 MHz of the 6 GHz band. Last December, the U.S. Federal Communications Commission (FCC) certified the first Wi-Fi 6E chipset[11] and its first 6 GHz Wi-Fi device.[12] In early January of 2021, the Wi-Fi Alliance began certifying Wi-Fi 6E devices, paving the way for new gadgets that can transmit across the entire 6 GHz band.[13] Wi-Fi 6E products have being announced at this year's (virtual) Consumer Electronics Show.[14] On January 14th, Samsung announced a new mobile phone that incorporated a Wi-Fi 6E client.[15] In light of this momentum, the research firm IDC has forecast that more than 316 million Wi-Fi 6E devices will enter the market in 2021 and shipments will rise rapidly over the next three years.[16] So clearly the Wi-Fi 6E ecosystem is ready and will continue to grow at an accelerated pace in the coming months.

(8) Economic benefits even if there are no licensing fees. Wi-Fi is a highly cost-effective wireless access technology due to ease of installation and user control over the network. According to Intel, the cost of licensing the necessary intellectual property for cellular 5G alone is 3x that of a Wi-Fi chipset, and the entire 5G cellular modem cost is 50x the cost of a Wi-Fi chipset.[17] Support for a cellular connection can add as much as U.S. $130 to the retail price of a tablet device.

[11] *See* FCC, "Grant of equipment authorization QDS-BRCM1095 (link)".

[12] *See* "Chairman Pai Statement on FCC Authorization of First 6 GHz Wi-Fi Device" (December 7, 2020). DOC-368593A1.pdf (fcc.gov)

[13] *See* "Wi-Fi Alliance® delivers Wi-Fi 6E certification program" (January 7, 2021). Wi-Fi Alliance® delivers Wi-Fi 6E certification program | Wi-Fi Alliance (wi-fi.org)

[14] *See* "Linksys Introduces Fastest and Most Powerful Wi-Fi 6E Mesh System and Enhanced Motion Detection" (January 11,2021). https://www.prnewswire.com/news-releases/linksys-introduces-fastest-and-most-powerful-wi-fi-6e-mesh-system-and-enhanced-motion-detection-301205475.html; See "Nighthawk® Tri-Band WiFi 6E Router (up to 10.8Gbps) with new 6GHz band, NETGEAR Armor™" (January 11,2021). AXE11000 WiFi Router (netgear.com); *See* "TP-Link Unveils New Networking Offerings, Bringing a Blazing-Fast, Ultra-Secure Broadband Experience to Consumers and Businesses" (January 11, 2021). https://www.tp-link.com/us/press/news/19331/ ; .

[15] Samsung Press Release, "Samsung Galaxy S21 Ultra: The Ultimate Smartphone Experience, Designed To Be Epic In Every Way". https://news.samsung.com/global/samsung-galaxy-s21-ultra-the-ultimate-smartphone-experience-designed-to-be-epic-in-every-way

[16] *See* https://www.wi-fi.org/news-events/newsroom/wi-fi-alliance-delivers-more-value-from-wi-fi-in-6-ghz

[17] Source: Eric McLaughlin, General Manager Wireless Solutions Group, Intel during the WBA Congress in Frankfurt in September/October 2019.

Given that Wi-Fi service providers do not need to participate in auctions to license the spectrum, the technology is a very cost-effective form of connectivity. Thanks in part to spectrum harmonization, the global Wi-Fi ecosystem benefits from enormous economies of scale, enabling manufacturers to produce very cost-effective products.

The timing when spectrum is made available is critical in spectrum management and determines the success of public policies in the telecommunications sector. DSA carried out a study on the economic value of the unlicensed use of spectrum in the 6 GHz band in Brazil[18] and found that accumulated economic value between 2021 and 2030 associated with allowing unlicensed access to 1200 MHz in the 6 GHz band amounts to 112.14 billion U.S. dollars in contribution to the GDP, 30.03 billion U.S. dollars in producer surplus (a benefit for Brazilian companies) and 21.19 billion U.S. dollars in consumer surplus (a benefit for Brazilian population). The most interesting aspect is not only this result, which is clearly very specific to the Brazilian case, but the fact that this study shows that not taking actions to open the band in the short term, but for example waiting to do so until 2024, in the case of Brazil, would lead to the loss of this economic contribution and would have an opportunity cost of 16.94 billion dollars.

Enabling wireless innovation and new use cases for people and companies (ex. AR/VR).

(9) Harnessing the 6 GHz band will improve indoor connectivity and enable the emergence of a new generation of advanced applications and services based on the Wi-Fi 6 standard. It would support demanding personal area network applications, such as transferring data between a smartphone and an AR or VR headset to the benefit of providers of entertainment (gaming, content), industrial applications, eHealth and other services.

With access to the 6 GHz band, Wi-Fi is also set to play a pivotal role in the further automation of manufacturing plants and other parts of industry. In South Korea, Taiwan, the US and other advanced manufacturing hubs, businesses increasingly regard Wi-Fi as an effective and efficient way to both

[18] *See* http://dynamicspectrumalliance.org/wp-content/uploads/2020/11/1-DSA-Valor-Economico-Uso-Nao-Licenciado-6-GHz-Brasil-1.pdf

monitor and remotely control machinery and other assets. To remain competitive, companies in other parts of the world are set to follow suit once the 6 GHz band is available on an unlicensed basis.

(10) Immediately realizable benefits. Making the entire 5925-7125 MHz band license-exempt will provide benefits for end users in Australia immediately. Wi-Fi 6E deployments could start as soon as the regulations are approved.

(11) The more unlicensed / licensed-exempt channels at a location spreads the RLAN's (and other devices) energy across more frequencies, which improves incumbent protections.

5. **Should standard power (that is, higher power devices, including for outdoor use) operating under a dynamic spectrum access system such as the automatic frequency coordination (AFC) system adopted in the USA, be adopted in Australia for some or all of the 6 GHz band? Is there an appetite and capability for industry to provide the necessary systems to enable such use? We welcome views and evidence on the commercial and technical feasibility of introducing AFC systems in the band.**

Australia should consider adopting rules permitting standard power operations operating under an automated frequency coordination system (AFC). There are unique high-power indoor and outdoor RLAN operations that can benefit from this category of device. As there does not appear to be any mobile incumbents in the 5925-7125 MHz frequency range, the DSA believes that standard power access points (and client devices) could operate throughout the band under AFC control.

An example of outdoor standard power access point use case is a WISP providing broadband access to residential consumers in less densely populated areas of Australia. The WISP provisions the capacity of each access point across several home. If ACMA permit outdoor standard power access points, WISP can either provides greater bandwidth capacity to each home served by a local network or can serve more homes on the same network with the current bandwidth capacity.

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The AFC falls somewhere in the continuum of automated spectrum management systems. The AFC is considerably simpler than the TV White Space Database and the Spectrum Access System used to manage access to the Citizens Broadband Radio Service in the United States. In 2019, the DSA published *Automated Frequency Coordination: An Established Tool for Modern Spectrum Management* that describes this spectrum management continuum in greater detail.[19]

There are AFC prototype available in the United States. Transforming the regulation to protect incumbent into software that is operated in the cloud is not technically difficult. The key is that the United States regulator, the Federal Communications Commission, has a highly reliable set of data on fixed links operating within the country and as there is no Federal users of the 6 GHz band, all the information is available to the public. There are ongoing efforts to confirm that all the information about the fixed links is correct.

With respect Australia, the DSA suggests that ACMA performs a first order assessment regarding the comprehensiveness and accuracy of the registered information about fixed links across the country and a gap analysis. DSA noted in the consultation document that there are military users in portions of the 6 GHz band (e.g., defence radars). It is not clear that the Australian government would want this information included in a publicly accessible database. Some thinking would have to be done regarding how to protect these incumbents, protect any location sensitive information, and still allow the AFC to function properly. In some locales there may have to be alternative arrangements.

6. Should the higher power regulatory arrangements and associated interference mitigation measures added to the International Telecommunication Union (ITU) Radio Regulations at WRC-19 (see Resolution 229 (Rev WRC-19)) in the 5 GHz band be included in any amendment to the LIPD class licence?

The DSA agrees that ACMA should consider higher power regulatory arrangements for the 5150-5250 MHz band, but not necessarily the ones included in Resolution 229 (Rev WRC-19). In the WRC- 19

[19] *Automated Frequency Coordination: An Established Tool for Modern Spectrum Management*, Dynamic Spectrum Alliance, March 2019.

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Final Acts FA Declarations and Reservations, the delegations of a number of Administrations reserve the right to allow operations of stations in the mobile service in the band 5150-5 250 MHz subject to other conditions than those contained in that Resolution, including higher power levels. WAS/RLAN is an application of the mobile service.

The DSA supports both indoor and outdoor use of RLANs in the band 5150-5250 MHz. Based on several years of track record in the United States, we believe that a 4 W EIRP limit plus the emissions mask to limit the amount of energy above 30 degrees to the horizon has been effective in preventing harmful interference to the incumbent's system. ISED in Canada took a somewhat different approach. There are Globalstar gateways both in the United States and Canada. DSA suggests that ACMA review how the United States and Canada each addressed bona fide and substantiated concerns raised by Globalstar.

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