



## Proposed updates to the LIPD Class Licence for 6 GHz RLANs” Consultation paper

### GSMA Response - December 2021

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The GSMA thanks ACMA for the opportunity to comment on its upcoming spectrum plans and gives specific comments below. The ranges discussed, 5 925-6 425 MHz and 6 425-7 125 MHz are important bands for broadband and the GSMA believes that the upper 6 GHz band is crucial for mid-term development of licensed 5G services.

### Lower 6 GHz band/proposed update to the LIPD Class Licence

#### Question 1

*Are the proposed out-of-band emission limits of -37 dBm/MHz for outdoor very low power (VLP) devices and -27 dBm/MHz for low power indoor devices suitable, both in terms of protecting intelligent transport systems (ITS) services and their effect on the operation of RLAN devices near/adjacent to the 5925 MHz boundary?*

The GSMA believes that clearly defined technical and operational characteristics of LIPD-type systems can help with co-existence with incumbent services.

Technical studies carried out by CEPT for licence exempt technologies in Europe consider the existing conditions for backhaul and satellite services in the band as well as adjacent band considerations. Technical conditions similar to those of CEPT have now been adopted by African Telecommunications Union (ATU) and parts of Arab Spectrum Management Group (ASMG) (except Saudi Arabia) for use by low power indoor. It thus seems likely that Region 1 will follow guidelines similar to those of Europe while Region 2, given the pan-American market for circulation of devices, will follow the guidelines in the US. The market in ITU Region 3 remains unclear at present.

We note that outside of the question of device proliferation the out of band limits agreed of CEPT of LP -22 dBm and VLP of -45 dBm provide a more cautious approach to the protection of adjacent band services and that the CEPT in-band levels are also more cautious, as might be expected from the multi-lateral CEPT decision-making process.



### Question 3

*Are there any broader comments on the proposed update to the LIPD Class Licence?*

The GSMA has published a report by Coleago Consulting that shows an average need of 2 GHz in mid-bands by 2030. Therefore, the bottom half of the 6 GHz band could only be opened on a licence-exempt basis with technology neutral rules if it shown necessary. The upper part of the range should be taken into consideration for IMT needs in the near future, following global developments in the band.

We further believe that the value driven from this band using new LIPD / licence exempt devices should be monitored carefully. In particular, analysis of the benefits of the use of this band for Wi-Fi above and beyond the existing 2.4 and 5 GHz bands, should be considered going forward in order to evaluate the frequency with which applications require the bandwidth of this new 500 MHz tranche of spectrum.

## Upper 6 GHz band/higher power RLAN devices

### General comments

The GSMA believes that the operational and technical considerations being made by ACMA with regard to making the upper 6 GHz band at 6 425-7 125 MHz available for use by RLAN technologies are premature.

While around 80% of 5G launches have been made to date using mid-band spectrum, this has been in the 3.5 GHz (3.3-4.2 GHz) range, usually in parts of the band between 3.4-3.8 GHz. This spectrum is used as the 5G launch band and at present and is being used to provide the first set of 5G use cases – largely enhanced mobile broadband.

The mobile industry has concerns about meeting growing 5G demand, both for eMBB and other user cases, through currently visible mid-band assignments. Use cases that rely heavily on mid-band spectrum, which include eMBB but stretch through most of the 5G service portfolio, from the industrial internet to FWA, require a clear vision for spectrum capacity that goes beyond 5G launch. This means looking at mid-band spectrum needs in the 2025-2030 timeframe when 5G use will be reaching its peak and planning for its evolution, or 6G, will be well-progressed.

The upper 6 GHz band is being considered as one of the likely areas of mid-band capacity expansion for licensed 5G. Government decisions that assign it all to RLAN technologies suggest that either no extra mid-band capacity will be required after launch for 5G or its evolution or that capacity will be found through other mid-band assignments to licensed 5G.

The GSMA has been involved in a series of studies<sup>1</sup> over the past 18 months that define mid-band spectrum needs by tracking a number of metrics, including population density, using a global sample of cities. These show an average mid-band spectrum need of 2 GHz in dense urban areas, taking into account Wi-Fi offload

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<sup>1</sup> <https://www.gsma.com/spectrum/wp-content/uploads/2021/07/Estimating-Mid-Band-Spectrum-Needs.pdf>  
<https://www.gsma.com/gsmadeurope/wp-content/uploads/2021/01/Demand-for-IMT-spectrum-Coleago-14-Dec-2020.pdf>



and offload to higher bands. Meeting this 2 GHz figure without at least the upper 6 GHz band is challenging in most cases.

### *Trends*

While WRC-23 will only consider the whole band in Region 1 for IMT / licensed 5G we note that, although in ITU Region 3 only the top 100 MHz will be considered, there are various routes open to using the whole 6 425-7 125 MHz band for licensed 5G in Australia. These include joining footnotes and making use of the existing mobile allocation as well as taking into account the new studies that will be delivered as part of the WRC-23 process.

We note various trends in the discussion both in and outside the WRC process with regard to the 6 GHz band. In particular, we note that Europe is currently deciding on its use for IMT, with some major markets supporting IMT and others supporting RLAN. ATU recently supported a preliminary view towards identifying this band for IMT while ASMG countries, other than Saudi Arabia, have only assigned 500 MHz in the lower band while deciding on the use of the upper band. RCC countries support use of 6 GHz for IMT systems while, outside of the WRC process, APT countries hold differing views. ITU Region 2 is largely supportive of RLAN in the upper 6 GHz, following the US decision on this, but outside of this there is no harmonised international support for RLAN.

Furthermore, for the international operator community, this band is supported by the GSMA's membership, in all three ITU regions, as a high priority for licensed 5G.

### *AFC*

The use of Automatic Frequency Coordination (AFC) is being discussed in certain countries around the world as a model for authorising outdoor use of standard power licence-exempt technologies. In particular, it was considered to be part of the bespoke US solution for the use of the 6 GHz band. It has proponents from the Wi-Fi community but is considered a last resort by the mobile industry to produce at least some value from spectrum where clear licensed spectrum assignment was an impossibility.

While its aim is to increase the efficiency of spectrum use through its employment of databases, maps, propagation models etc, this use of spectrum has not yet matured. The benefits of allowing outdoor use of AFC-linked, standard-power, licence-exempt technologies over using the spectrum for licensed macro cellular networks is thus unclear. In situations where 500 MHz of licence exempt spectrum has just been assigned in the lower 6 GHz band, the GSMA believes that making an immediate follow-on decision to launch another 700 MHz of RLAN spectrum is premature and hard to justify.

The market for outdoor licence-exempt applications such as public Wi-Fi also remains untested. In a 5G environment, use of cellular 5G has often stifled demand for such applications where consumers instead show a preference for the security and familiarity of the cellular network.

Therefore, the GSMA believes that caution should be taken when considering AFC-linked RLAN systems in the upper 6 GHz band before the market for Wi-Fi 6E and other licence exempt technologies in the lower-6 GHz band becomes clear.



We remain available to support on any additional explanation, including scheduling meetings to clarify any specific topics raised in this response.

Please accept assurances of our highest regards.

A handwritten signature in black ink that reads "Jeanette Whyte". The signature is fluid and cursive, with a large loop under the "y" in "Whyte".

Jeanette Whyte

Head of Public Policy, APAC GSMA