



Harmonisation of the 3800-4200 MHz band

GSMA Europe Position Paper


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About the GSMA

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Impact of the current European approach to Spectrum Policy

The GSMA wishes to raise concerns about the risk that restrictive technical conditions may cause to the premise of service neutrality as well as the risk that such approaches may breach Article 45 of the European Electronic Communications Code (EECC).

Across the EU, Member States are taking different approaches to spectrum demand from industry verticals for the deployment of private networks. Different bands are considered (2300 MHz, 3400-3800 MHz, 3800-4200 MHz), varied authorisation processes applied (direct licensing by the Administration or reliance on the secondary market) and there are a variety of ways in which a reservation is made for a particular service or use (in some cases the licences are service neutral, in other cases only private networks or specific verticals are allowed). The divergent approach is partly due to a lack of coordination on this issue, and partly caused by different national circumstances in terms of demand, existing use or trust in the secondary market.

It is important to note that such variety of approach is not an insurmountable obstacle to service provision. Private networks for vertical users benefit to a large extent from economies of scale of the 4G and 5G ecosystems, and do not need to operate within the same band to reach critical mass. In the same vein, the fact that there are different authorisation mechanisms in different countries does not necessitate EU level harmonisation of licensing terms and procedures.

However, the GSMA has concerns regarding departures from the principle of service neutrality. We believe that there is a risk that some Member States could use harmonisation at EU level to promote a particular solution and impose unnecessary constraints on other countries rather than applying the minimal technical conditions required to ensure co-existence.

Artificially constraining the possible uses of a spectrum licence goes against the market-based principles of service neutrality. Irrespective of its geographic scope, granting a spectrum usage right on the condition that it is used for a private network, or for a particular vertical application, is in our view a clear breach of article 45 of the EECC, as we do not see how it can be justified by the need to fulfil a general interest objective (the only exception foreseen).

The 3800-4200 MHz band is an important expansion band for 5G. Harmonisation at EU-level should specifically focus on applying the least restrictive technical conditions that ensure coexistence with incumbent spectrum users. It should be made available for all possible 5G technologies (or, more generally, wireless broadband technologies) within those limits. Very low power thresholds would have a particular service implication and push the band towards certain services. Such limits risk being entirely unnecessary from a sharing and co-existence perspective and will impede service neutrality. Less restrictive sharing mechanisms that do not require strict power limits and provide more flexibility can be applied.

There is evidence supporting the fact that artificially low power limits in licensed bands can significantly reduce the value of the spectrum. For example, in the US, the price per MHz of high-power licences in the 3700-3980 MHz band was four and a half times higher than the price of mid/low power licences in the 3550-3650 MHz band (CBRS). In general, higher power limits will also increase the value of the spectrum for verticals and local users, and therefore the benefit of low power limits is questionable also from this perspective.

Technical regulation that stifles efficient use of spectrum and removes service neutrality will lower the value of spectrum for European consumers. While small differences in licensing approaches for vertical networks between countries do not harm service provision, imposing technical restrictions that enforce the licensing of specific services will cause reductions in the value of the spectrum and should be avoided.

Our suggested approach

We acknowledge the potential for spectrum demand for local uses and understand that some Member States might wish to create scope for interested parties to meet that demand in the primary spectrum market, at least in some bands. However, the benefits of local licensing are currently unclear. For example, the German decision to set aside for local use 25% of the spectrum harmonised for 5G in mid-bands has achieved mixed results. So far there are only 201 local assignments, and artificial scarcity significantly inflated prices for wide area licences. As a result, German operators paid 75% more, in EUR/MHz/pop, than their peers in Spain. Elsewhere in Europe, Sweden has also set aside 80 MHz in (3720-3800 MHz) for local use and opened the possibility to request a licence with very limited demand.


Local licensing can be easily accommodated within a technical EU harmonisation that sets coexistence-based maximum power limits and that is service and technology neutral, as the precedent of local licensing in Germany in 3700-3800 MHz shows. The benefit of that option is that, if a particular country does wish to implement local licensing, it will at least not impose low power thresholds or a specific licensing regime on other Member States. The option to assign national licences suited for mobile macro deployments will remain, and the secondary market, together with market-oriented regulation, can accommodate local spectrum demand by verticals.

Citizens and businesses in countries that wish to implement local licensing would also benefit from removing unnecessary restrictive power limits. Local licensing should be pursued in a manner compatible with macro-cell transmissions. This maximises efficient use and ensures all possible value can be derived from the spectrum. The increase in the potential value of the spectrum calls for such an approach, even if this makes careful spectrum management important as usage grows.

Harmonisation of the 3800-4300 MHz band

The ongoing CEPT work in response to the RSC mandate¹ on the 3800-4200 MHz band can prevent a scenario in which EU harmonisation at low power levels leads to a large and valuable spectrum band remaining largely unused. There is no guarantee that demand from local users will materialise to any significant extent and such demand may be limited to a small number of locations. Verticals and local users already have other spectrum bands and alternatives available. In some countries, there are already set asides in mid-bands and, in many cases, use-it-or-lease-it obligations in place. In all cases, unlicensed spectrum is available in large amounts for local area networks and is sufficient to meet the needs of many vertical users. Licence-exempt frequencies in mid-band in Europe amount to roughly 1230 MHz, a similar figure to what is assigned for mobile networks in low and mid-bands.

¹ Mandate to CEPT on technical conditions regarding the shared use of the 3.8-4.2 GHz frequency band for terrestrial wireless broadband systems providing local-area network connectivity in the Union



There is scope in the RSC mandate for CEPT to study the possibility of shared use with incumbent users without being unnecessarily restrictive in the definition of power thresholds. Macro deployments by mobile networks, for example, can be considered “mid power” to differentiate them from TV broadcast deployments that use much higher powers and have traditionally been termed “high power”. Taking advantage of this part of the mandate would allow RSC to take a harmonising Decision based on a full and neutral assessment of technical requirements. We find there is clearly more value in providing RSC with a rigorous assessment of the trade-off between power limits for entrants and co-existence with incumbents, than in pre-empting valuable options by making a very restrictive interpretation of the term “low and medium power”.

The GSMA supports the definition of least-restrictive technical conditions and subsequent consideration of market-led and hybrid spectrum management approaches to meet demand. This can ensure the optimisation of spectrum use and allow for leasing and sharing mechanisms that cater for the needs of all users to be employed as required.

As such, it would be valuable to complement the response to the mandate with a recommendation on best practices aimed at minimising interference among local users and in border regions. This can facilitate a flexible framework that introduces restrictions on use (e.g. power limits, synchronisation) only when required for co-existence.



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