

ESOA response to the PTS consultation document:

“Konsultation inför planerad tilldelning av frekvensutrymme i 2,3- och 3,5 GHz-banden samt tilldelning av frekvensutrymme för lokala tillstånd”

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To: 3500MHzbandet@pts.se

1. Introduction

As a trade association, the EMEA Satellite Operator's Association (ESOA) welcomes the opportunity to provide comments to PTS in response to its Consultation for the planned allocation of frequencies in the 2.3 and 3.5 GHz bands and the allocation of frequencies at local level (herebelow called “Consultation”). Our comments are specifically related to the plans for authorisation of 5G systems in the 3420-3800 MHz band and the options envisaged for the 3.8-4.2 GHz band.

ESOA is a non-profit organisation established with the objective of serving and promoting the common interests of EMEA satellite operators. The Association is the reference point for the European, Middle Eastern, and African satellite industry and today represents the interests of 34 members, including satellite operators who deliver information communication services across the globe as well as EMEA space industry stakeholders and insurance brokers. ESOA members are particularly involved in the discussions on spectrum identification for 5G, since several frequency bands targeted in Europe or at the ITU level are essential for satellite communications; which represents a threat for the Space industry in France.

2. The 3420-3800 MHz band

ESOA notes that in the Consultation, “with regard to the 3.7GHz–3.8GHz band, PTS (...) continues to investigate the issue of local permits,” in view of making this band available to IMT / 5G by the end of 2019.

The Consultation informs on the power limit values for the 5G base stations to operate in 3400-3800 MHz. PTS in its document tells that “*in 3420-3800 MHz, PTS intends to set the limit value for base station transmitter and repeater in the downlink direction within the license holder's own frequency block to 47 dBm / 5 MHz TRP for BS with AAS and 68 dBm / 5 MHz eirp for BS without AAS (...) PTS intends to set reasonable conditions for protecting other uses within and outside the frequency bands 2.3 GHz and 3.4-3.8 GHz.*”

ESOA notes that more details on the local conditions are provided on pages 16-17 of the PTS document.

ESOA welcomes that PTS is proposing in-band power limits and agrees with the values proposed. In case PTS has not already foreseen it, ESOA would appreciate that PTS requires in their proposed regulations/licences a Block Edge Mask (BEM) for protection of FSS earth stations above 3800 MHz, noting that such BEM should be in accordance with the in-band limits proposed - i.e. 9 dB below the BEM of ECC/DEC(11)06.

3. The 3.8-4.2 GHz band

In the consultation document, PTS announces its intentions to consider extending the usage of mobile terrestrial systems IMT for 5G in the 3.8 – 4.2 GHz frequency band on a local basis. The document notably explains what follows:

PTS sees that there is a need for local permits and intends to continue investigating the issue. The study on local conditions in the 3.7-3.8 GHz band should be coordinated with the feasibility study on the 3.8-4.2 GHz frequency band. The investigation shall include which frequency band (s) is most suitable for local conditions and which form of allocation is most suitable. If the investigation shows that 3.8-4.2 GHz is more suitable for local permits, this may mean that even 3.7-3.8 GHz is made available for national permits.

(...)

During the latter part of autumn 2018, PTS initiated a preliminary study on the frequency band 3.8-4.2 GHz. The frequency band is deemed to be under-utilized in Sweden. It has favorable wave propagation properties which make the band as attractive for the 5G as the 3.4-3.8 GHz band. In the work on the feasibility study, appropriate allocation method for new use of spare parts of the 3.8-4.2 GHz band is investigated. Solutions to meet the local needs of the 5G-connectivity mentioned above are also part of this investigation.

ESOA is extremely concerned with such a possible development. The 3.8-4.2 GHz band is largely used by satellite operators overall for inter-continental links, and some of these links are critical. More than 50 satellites with C Band frequencies cover Europe, the majority of which relies on the 3.8-4.2 GHz band for communications within Europe and between Europe and the rest of the world.

As an example, these C Band frequencies are used for an earth station located in Sweden that enables transmission of data for the Galileo Data Dissemination Network (GDDN), the communications platform that undertakes critical links for the functioning of the Galileo navigation system.¹

It is also to be reminded that in the ITU Table of Allocations, the 3.6-4.2 GHz band is co-primary FIXED SATELLITE SERVICE / FIXED, whilst the Mobile Allocation is secondary in Region 1. The European Allocation Table of the CEPT has a footnote ECA 37 that specifies: *In Europe, the [primary] allocation to the mobile service is limited to the band 3400-3800 MHz.*

It is unclear how the opening of the 3.8-4.2 GHz band to 5G terrestrial mobile services would

¹ For more information, see: <https://www.ses.com/press-release/ses-provides-managed-services-galileo>

maintain the ability to further use and deploy satellite services in this band.

Finally, the pioneer bands identified by the CEPT or the Radio Spectrum Policy Group (RSPG) for 5G do not include 3800-4200 MHz, and ESOA would be alarmed to see other countries of the region ignoring it by following a path detrimental to the satellite industry.

4. Conclusion

ESOA is pleased that protection measures have been specified for the operations of 5G services in the 3420-3800 MHz band, thus enabling to preserve existing services in this band.

ESOA is worried to read that a European regulator is also considering the opening of the 3.8-4.2 GHz band to such services, given its criticality to satellite operators. We would very much appreciate receiving further explanations and details why this band could be more suitable for local permits, and how the investigations for such permits would be conducted.