



office@apwpt.org

www.apwpt.org

APWPT e. V. | Pappelallee 78/79 | D-10437 Berlin | Germany

Nkom

firmapost@nkom.no

Subject: Nkom's discussion paper
"Veivalg for frekvensforvaltningen mot 2030"

The APWPT thanks Nkom for the opportunity to express its views.

The APWPT promotes on an international level the efficient and demand-driven provision and use of production frequencies for professional event productions as well as safeguarding such production frequencies for the users on the long run.

Programme Making and Special Events (PMSE, also known as SAB/SAP) is the term used to describe the wireless communication links that allow the creative industries to transport the captured audio and video content from performers and presenters on location to audiences, either at the venue, at home, or increasingly, on the move. PMSE is primarily divided into audio and video, and each has unique characteristics that need to be catered for.

Content created with PMSE is consumed all over the world on a multitude of platforms. It relates typically to televised sport, outdoor music events, theatre productions, television light entertainment, feature film production and live television news gathering. However, it also encompasses many other applications, for example PMSE is used at exhibitions, house of worships, conferences, and educational institutions. Especially streaming platforms created an increased demand on producing new content, requesting high quality PMSE applications.

Therefore, PMSE is essential for the social and cultural life and contributes with a high factor to the economy of every country.

Please see also ECC Report 323 'Spectrum use and future spectrum requirements for PMSE'¹

¹ <https://docdb.cept.org/document/18490>

Specific comments to UHF band below 1 GHz

We appreciate that Norway is listed with ITU-R FN 5.296 allowing audio PMSE (SAB/SAP) access to the band 470 - 694 MHz as a land mobile service.

The UHF band below 1 GHz is the core band for professional audio PMSE applications due to the physics of that band. The combination of radio propagation characteristics (particularly, body absorption and operating range), a low level of existing man-made noise and favourable antenna length allows to deploy high quality audio PMSE equipment.

High-quality audio PMSE applications have specific requirements in e.g. terms of latency, which cannot be easily achieved by existing standardized radio technologies. Therefore, many audio PMSE applications are implemented based on proprietary dedicated wireless solutions. Nevertheless, manufacturers are very innovative and continuously invest in the development of new technologies, e.g. wideband systems based on WMAS, DECT 2020 NR and 5G. It is worth noting however, that these technologies are still not available and even when they will become available, technological innovation will not eliminate the need of audio PMSE for dedicated interference-free frequency resources in the sub-1GHz UHF band.

Any future access policy to the TV-UHF band must continue to support the future use of audio PMSE.

The typical frequency spectrum requirement does vary for different use cases and applications. The report 'Report on spectrum requirements for Audio PMSE'² analyses the spectrum needs for audio PMSE. According to the results of this report the daily required spectrum for audio PMSE in the UHF-TV band today is ~110 MHz. With this amount of spectrum, the requirement of the most of campus/venues and events can be fulfilled. Nevertheless, for major events the average of the required spectrum sums up to 174 MHz, while the peak demand could require the whole available UHF-TV spectrum of 224 MHz (audio PMSE is deployed in between active TV transmitters).

Comments to IMT mobile duplex centre gaps

APWPT would like to request that the duplex centre gaps in the mobile IMT bands below 2 GHz are opened for audio-PSME use. However, please note these bands are not sufficient for high professional audio PMSE applications, which require more frequency spectrum, which is clean and interference free from adjacent IMT services.

Comments to '3.3 Future use of the 1.4 GHz band for wireless broadband'

We ask to consider the band 1350 – 1400 MHz for PMSE use. This band is already assigned to PMSE in several countries and has a major role in the future frequency spectrum planning for PMSE.

² <https://apwpt.org/wp-content/uploads/2022/03/Report-PMSE-Audio-spectrum-requirement.pdf>

Comments to DECT (current 1880 -1900 MHz)

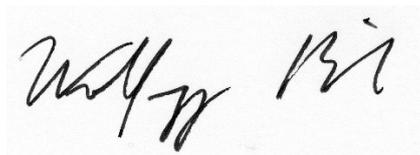
Some audio PMSE applications like talkback, which do not require very low latencies, moved after the loss of the 700 MHz into the DECT band. With the recent recognition of DECT NR+ as a member of the IMT-2020 family of standards, the DECT core band becomes very attractive to many new applications.

We kindly ask Nkom to consider the expansion of the 1880 - 1900 MHz DECT band to 1880 - 1920 MHz. The use of DECT technology in this band is immediately possible for the industry without any large development effort.

Summary

- PMSE is an essential service for social and cultural life contributing with a high factor to the economy.
- APWPT asks Nkom to consider PMSE (audio, video, control) in its spectrum strategy plan.
- The TV- UHF band is the core band for audio PMSE and must continue.

Yours sincerely,



Wolfgang Bilz
Chairperson of the Board of APWPT e. V.