SENNHEISER

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European Commission
Directorate-General for Communications Networks,
Unit B4 “Spectrum”
BU33 07/11
B-1049 Brussels/Belgium

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Sennheiser comments
to RADIO SPECTRUM POLICY GROUP - Opinion on a long-term strategy on future spectrum need and use of wireless audio and video PMSE applications
DG CNECT/B4/RSPG Secretariat

As send previously by mail to ales.brabinek@ec.europa.eu

Dear Ladies and Gentlemen,

Sennheiser gives this comments from its view as manufacturer but also from the view of its customers and professional user of wireless production technology. Sennheiser is committed to ensuring that sufficient and suitable frequencies are available for the use of PMSE even in a digital world.

Although many political representatives use wireless microphones almost daily, they are generally unaware of the technical framework conditions.

Today, communication is no longer conceivable without PMSE. The devices can be used quickly and without great effort. At the same time, the complexity of events and productions is increasing. The number of audio PMSE devices in use is growing continuously. Many events, especially in the cultural and creative industries, would no longer be possible without PMSE.

Sennheiser welcomes

- the EU Commission's decision to ask the RSPG to make a proposal for a long-term strategy to ensure the viability of Audio and Video PMSE.
- the RSPG's findings on the importance of PMSE in the production of content.
- determination of the RSPG regarding the increase of events where audio PMSE is used.
- Recognition of the special requirements for frequencies for audio PMSE.

Sennheiser is missing

- concrete proposals how to compensate the losses created by the Digital Dividend 1 and 2.
- concrete proposals on how to meet the increasing demand for frequencies for PMSE in the future.
- concrete solutions for the peak demand for audio PMSE frequencies at major events.
- the detection of appropriate substitute frequencies which could be used by Audio PMSE in the long term within the Member States.
- concrete procedural steps how the RSPG findings are to be translated into tangible commitments for suitable frequencies.
- statements on how manufacturers' and users' investments in new audio PMSE equipment should be secured in the long term.
- statements how the financial damage should be compensated if previously used equipment can no longer be used and has to be scrapped.
- The statement for transit time of minimum five years when there is the need to clear and to move into new spectrum.

Sennheiser demands

- long-term planning security for manufacturers and users through the identification of suitable spectrum for Audio PMSE.
- concrete studies of the current and future frequency requirements for Audio PMSE.
- securing of the UHF spectrum from 470 to 694 MHz until 2040 for TV and audio PMSE.
- the designation of a replacement spectrum for Audio PMSE in 2020 and not only in 2025 to come to sufficient transit times.
- reviewing the frequencies designated for Audio PMSE in 2030, if adequate technical solutions and/or frequencies are available and applicable everywhere.

Spectrum loss

The current situation on frequencies for PMSE is unacceptable. Following the decision to remove PMSE's 700 MHz and 800 MHz bands, wireless production equipment has lost almost half of its spectrum. The replacement spectrum shown so far does not compensate for this loss.

60 MHz cannot cover the daily requirements for communication and production. The DKE German Commission for Electrical Engineering Information Technology in DIN and VDE has carried out many measurements in Germany. They prove that there is already a greater need for frequencies at normal events. This was proven earlier already by the study of the German BNetzA in 2008 which came to the conclusion that about 100 MHz of quality spectrum is required for daily operations of PMSE.
When IMT starts its operation in the 700 MHz band studies conducted by the Bayerischer Rundfunk (Germany), show that in many areas in Bavaria in the range of 470 - 694 MHz less than 60 MHz are available. Often it is just 32 MHz. The remaining frequencies are used by TV transmitters or are interfered by them – not usable for PMSE.

The current substitute spectrum cannot compensate for this – it hardly compensates the loss of DD1.
Planning reliability

Manufacturers must develop and produce new equipment for the substitute frequencies. Since these frequencies are located in different ranges, a separate microphone system has to be developed for each spectrum range. Manufacturers will only launch new devices if it is ensured that this spectrum can be used in sufficient countries (economies of scale) and the users can use them for at least 15 years. Otherwise, refinancing is not possible for manufacturers and users.

Manufacturers and users need planning security. So far, this has only been granted to mobile operators. The RSPG and the EU Commission refuse to guarantee users and manufacturers this planning certainty. They refer to future technical developments. However, it is not certain whether these will ever become reality. If a positive development is assumed, at least in the transition phase there must be sufficient suitable spectrum available. Pending future technical solutions for Audio PMSE, the transition phase must not be used to create a fait accompli by awarding spectrum to IMT and other users.

Spectrum requirement

There is no comprehensive analysis of Audio PMSE's spectrum requirements. Decisions are based on assumptions and estimates. This also applies to the distinction of the RSPG between daily and peak demand. Unfortunately, it does not specify how the distinction has been drawn.

According to the RSPG the spectrum needs for peak demand are to be resolved at national level. The proposal gives the impression sufficient spectrum is available for Audio PMSE at Member State level. It would only have to be assigned to Audio PMSE. This is not the case.

If there are no suitable frequencies available at European level, there is also a lack of them at Member State level. Not all frequency ranges are suitable for audio PMSE for physical reasons. In addition, all relevant frequency ranges are already assigned by the WRC, European and national regulations.

Based on concrete measurements, a pan-European spectrum must be identified that is basically suitable for the use of Audio PMSE and available for major events.

In this context, it should be noted that the effort and costs for users will increase in the future if frequencies in different bands have to be used. It is not possible to accommodate different frequency ranges with different physical characteristics in one microphone. The planning of events becomes more extensive.

Time schedule

The timetable presented in the Lamy report needs to be revised. In this context, it should be kept in mind that the Lamy report was not the result of an agreement between stakeholders. The Lamy report only expresses the opinion of the chairman.

In order to ensure the long-term viability of Audio PMSE and investments, the UHF spectrum of 470 - 694 MHz

must be available for TV and Audio PMSE by 2040. Before this date, there is not enough suitable spectrum available as a substitute. After clearing the 800 MHz band and the 700 MHz band, users must have the chance to amortize their equipment in the 470 - 694 MHz spectrum.

Suitable alternative spectrum for the loss of the 700 and 800 MHz band therefore must be identified in 2020 and not later in 2025. In that case, these areas can be implemented nationally. Clearance of the 700 MHz band shows that it will take several years to be implemented in all Member States. Only then can manufacturers start developing, producing and selling new devices. Users will only invest in new equipment when they are convinced that the spectrum will be usable in the long term.

All manufacturers are working on sustainable solutions for PMSE. They are in competition with each other. Despite intensive research, there is still no market-ready device that can replace the analog devices and requires less spectrum. In order to take into account future developments, Sennheiser proposes to check in 2030 whether the frequencies reported for Audio PMSE are still needed, because even more efficient new technical solutions may be then ready for the market.

Sennheiser offers to the RSPG to join the discussion to secure the activities of the Culture and Creative Industry – one of the most important industries in Europe – by securing its major tool for communication: spectrum.

With kind regards,

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