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Manually configurable white space devices

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Response from Sennheiser electronic GmbH&Co KG to Ofcom Consultation on:

Manually configurable white space devices

Consultation on the licensing of manually configurable white space devices operating in the UHF TV band

About Sennheiser:

The Sennheiser Group based in Wedemark near Hanover, Germany, was founded in 1945 and has gone on to become a leading manufacturer of microphones, headphones and wireless transmission systems. Sales in 2013 totaled 590.4 million euros. Sennheiser employs more than 2,500 staff worldwide and operates plants in Germany, Ireland and the USA. The company has a worldwide network of subsidiaries in Great Britain, France, Belgium, the Netherlands, Switzerland and Liechtenstein, Germany, Denmark (Nordic), Russia, Hongkong, India, South Korea, Singapore, Japan, China, Australia and New Zealand, Canada, Mexico, and the USA. It also has long-established trading partners in other countries. Georg Neumann GmbH, Berlin, a maker of studio microphones and monitor speakers, and Sennheiser Communications A/S, a joint venture making wired and wireless headsets for PCs, offices and call centers, are also part of the Sennheiser Group.

General remark:

RF operations will only be successful as long as there is no interference to existing users. In the UHF-TV Band the two users, terrestrial TV and PMSE, share the spectrum to the benefit of both: PMSE takes care of interference free production to provide the quality demanded for interference free distribution. This was and is possible as both spectrum users operate on professional level, strictly obey the rules for interference-free operation and have a vital interest in their production quality.

An uncontrolled device as described in this consultation will be the end of this area of interference free operations for content production and distribution as these devices are not operated by professionals, do not have 100% duty cycle nor the demand for quality at Broadcast level. As long as there are no measures and controls to block interference of these devices and no rules on liability we ask Ofcom to stop this project.

As done in the past Sennheiser is willing to support tests to the benefit of maintaining the current production quality of the existing spectrum users before WSD is granted access to this range.

Question 1: Do you agree with our assessment of the likely costs and benefits of our proposal to license MCWSDs as a transitional arrangement? Please provide any available evidence to support your response.

No: you have ignored a wide range of issues, which include:

1. Ofcom is a member of ITU and CEPT and should conform to the entries, to which they have agreed in the Radio Regulations. The allocation for this part of the Broadcast band is "Broadcast" with secondary use by PMSE. By no stretch of the imagination can WSD be included in either category
2. Under the various international agreements Ofcom are obliged to consult our neighbours before using spectrum in a way that may impact on their Broadcast reception. From this agreement it is a responsibility to consider the use of any WSD, especially 4W high tower units which could impact on adjacent countries. I have not seen the proposals to carry this out or the cost of so doing.
3. By purposing a new licenced service in the Broadcast band you immediately give it the same status as PMSE under the Radio Regulations, this is contrary to the use and benefit of PMSE which has already lost access to some 72MHz in the Broadcast Band 470-862MHz
4. The licencing of any WSD system will give it a status which enables it to challenge PMSE use in its service area
5. The concept of WSD was promoted as a licence exempt database driven, spectrum efficient system. If it is now to be licenced why does Ofcom not put this new "service" in existing licenced bands

Question 2: If you agree that Ofcom should allow MCWSDs to operate in the UHF TV band within the TVWS framework, how long do you believe that the licensing regime would need to be in place?

We do not agree that Ofcom should licence this band and find the question biased in favour of WSD.

The whole concept of licencing WSD suggests that the WSD project as pushed forward in recent years has failed and should be stopped. There has been sufficient time and trials to show if the geo-location database concept for WSD will operate without interference to other users. By suggesting licencing it shows that the proposed system is incapable of operating without causing interference

Question 3: If you agree that Ofcom should allow MCWSDs to operate in the UHF TV band within the TVWS framework, when do you believe it would be appropriate to conduct a review to assess whether there is an ongoing need to license MCWSDs?

We do not agree that Ofcom should licence this band and find the question biased in favour of WSD. Therefore no review will be necessary

The whole concept of licencing WSD suggests that the WSD project as pushed forward in recent years has failed and should be stopped. There has been sufficient time and trials to show if the geo-location database concept for WSD will operate without interference to other users, by suggesting licencing it shows that the proposed system is incapable of operating without causing interference

Question 4: Do you agree with the proposed terms of the draft licence as set out in Annex 5 and as discussed below?

No: you state this is to minimise cost to the WSD industry and Ofcom but have not considered contra costs for PMSE and TV reception.

The very fact that you now, after many years of discussion and testing, require to "Licence " these supposed cognitive systems show a total failure of the project, which should either now be scrapped or heavily modified to protect the existing users.

As a number of proposals from WSD companies appear to be for mesh networks providing a mobile phone style service and the WT Act licencing gives them equivalent legal status to other licenced users and will encourage Lawyers to challenge any requirement (including shutting down if they interfere) that Ofcom may make on their use.

Question 5: Do you think it would be beneficial for the licensing regime for MCWDs to cover both masters and slaves?

We do not believe any licence system should be put in place but if Ofcom chose to go ahead all WSD forms must be licenced otherwise how interference will be mitigated?

Question 6: Do you agree that our licensing regime should only apply to type A devices?

We do not believe any licence system should be put in place but if Ofcom chose to go ahead all WSD forms must be licenced otherwise how interference will be mitigated?

Question 7: Do you agree with our approach to allow a number of MCWSDs under the control of a single licensee to be subject to a single licence?

NO! We do not believe any licence system should be put in place but if Ofcom chose to go ahead all WSD devices must be licenced otherwise how interference will be mitigated?

Question 8: Do you agree that the proposal for specific licence terms will mitigate the risks posed by the use of MCWSDs?

No: for all the reasons outlined above and how will PMSE users be compensated when it goes wrong and an extremely expensive event with large numbers of the paying public in attendance is ruined. In addition the use of a licence implies legal approval for such a device

Question 9: Do you consider the proposed licence terms are appropriate and proportionate?

No: they provide a legal status which will challenge the Radio Regulations and CEPT Report 25 use of this band and allow legal challenge to PMSE use at a given point if it interferes with the WSD commercial activities.

Question 10: Do you have any comments on our proposal to require applicants for licences to deploy MCWSDs to supply details of their QA process on application?

Yes: there are no independent plans to check on the competence of installers to carry out an installation and check its coverage or control. Ofcom should ensure that each installer attend an Ofcom agreed training course on the subject and installations should be inspected and technically checked by Ofcom before being allowed to go "on air"

Question 11: Do you agree with the proposed technical conditions of the draft licence?

No: they do not provide sufficient technical control to provide protection to other users, especially with reference to intermodulation interference

Question 12: Do you have any comments on the proposed duration for this licence?

- a. There should not be any licence
- b. If there is it should be as short as possible say 3 months

Question 13: Do you have any comments on our proposed licence fee of £1,500?

YES: as there are a range of companies wishing to set up an equivalent mobile phone service, this is cheap and unfair to mobile operators

Question 14: Do you have any comments on our proposed five year minimum notice period for revocation for spectrum management reasons?

Yes: the period is much too long and should be six months

Question 15: Do you believe there is likely to be an ongoing need for white space devices that allow some level of manual configuration? Please give reasons for your answer.

No: the whole objective as stated by Ofcom was that they should be cognitive and controlled by a database; instead we now have a proposal for conventional historic licencing system which surely defeats the whole project ethos

Question 16: Do you believe there is merit in exploring allowing enhanced operation through a licensing regime in the future and if so what additional capabilities should be allowed?

No: the whole objective as stated by Ofcom was that they should be cognitive and controlled by a database; instead we now have a proposal for conventional historic licencing which surely defeats the whole project ethos

Norbert Hilbich, April 24th, 2015