

Ofcom Consultation

British Entertainment Industry Radio Group (BEIRG)

Manually configurable white space devices - Consultation on the licensing of manually configurable white space devices operating in the UHF TV band – Response

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Executive Summary

- BEIRG has serious concerns with regards to the deployment of any white space devices (WSDs), including those which are manually configurable, in UHF band TV Whitespace.
- BEIRG remains deeply sceptical about the inclusion of WSDs into the UHF band, given the band's increasing levels of congestion.

- The ETSI Standard EN 301 598 clearly requires a database with automatic configuration with regards to the operational parameters for WSDs. Ofcom's approach to Manually Configured WSD's would appear to be contrary to this. So BEIRG asks Ofcom to explain why PMSE equipment manufacturers should invest heavily in order to conform to standards that protect other applications, if these standards are not deemed to be binding on newer technologies.
 - BEIRG asks Ofcom for assurance that the strength of regulations as set out in the consultation document will not diminish, and that Ofcom has the resources to carry out enforcement regardless of the number of licensees.
 - BEIRG is disappointed by Ofcom's omission of several key policy points on spectrum usage, including those from the 2010 document *Programme-making and special events: Future spectrum access*; BEIRG asks Ofcom to justify why UHF spectrum is the most appropriate for the deployment of WSDs.
 - BEIRG would like to highlight the ongoing confusion surrounding Ofcom's WSD policy, including the legality of introducing another licensed user into the UHF band.
 - BEIRG does not believe that Ofcom's plans for the Quality Assurance process or the nature of the three year review are transparent enough.
 - BEIRG urges Ofcom to explicitly state that, in the event of having to share radio spectrum with any kind of WSD, PMSE will always remain the primary user.
 - BEIRG suggests that any permanent solution to the licensing of Manually Configurable White Space Devices (MCWSD), in three years or less, would have to be preceded by the allocation of a sufficient quantity and quality of internationally harmonised alternative spectrum to PMSE users.
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Opposition to the introduction of White Space Devices into UHF spectrum

BEIRG remains opposed to the idea of sharing increasingly limited spectrum with white space devices (WSDs), whether manually configurable or not. Whilst BEIRG welcomed the testing of WSDs undertaken by Ofcom in 2014, those tests were not comprehensive and did not address concerns over aggregation of interference if multiple WSDs are used in close proximity. It was astonishing that Ofcom was unable to geo-locate a single device during those tests, undermining the viability of WSDs in general.

BEIRG welcomes the more stringent safeguards put in place by Ofcom following its programme of testing. In particular, BEIRG is pleased with Ofcom's recognition of the danger of 'hacked' devices, something which has been absent in other discussions around WSDs. However, although the strength of regulation described in the consultation document is welcomed by PMSE users, BEIRG is unconvinced that it will prove strong enough to deal with the uncertainty of the WSD sector. BEIRG urges Ofcom, at the very least, to maintain the levels of regulation and control of MCWSD use suggested within the consultation and not to bow to WSD stakeholder pressure. This is also important as there is no way of knowing how many licences will be issued before the three years are complete; it is conceivable that it could be very many. As

such, BEIRG is concerned that Ofcom will not have sufficient investigation and enforcement resources to maintain the stringent management of MCWSDs as set out in the consultation document. BEIRG asks Ofcom for confirmation of that these funds are available before progressing with the deployment of MCWSDs.

However, even with the proposed regulatory framework in place, BEIRG believes that WSDs could still cause serious interference to PMSE users. BEIRG is particularly concerned by intermodulation and the danger of devices being 'hacked' or 'jail broken'. By allowing the deployment of WSDs into UHF spectrum, Ofcom would be permitting the development of an environment that threatens existing users of UHF spectrum with increasing levels of interference.

Since 2012 the amount of spectrum accessible to PMSE users has severely diminished; the eventual reallocation of the 700 MHz band alone will reduce available spectrum by a third, or possibly even more once DTT is re-packed into the remaining UHF spectrum. BEIRG believes that permitting WSDs to operate in the same spectrum as PMSE users could severely damage the quality of events and productions which rely on PMSE technology. As such, BEIRG is disappointed by Ofcom's approach to white space devices as outlined in this consultation, and restates its opposition to their introduction. Furthermore, BEIRG is unsure about the legality of allowing the introduction of yet another licensed technology into UHF spectrum. This legal uncertainty is yet another indicator of the confused nature of WSD policy.

BEIRG suggests that the WSD policy as originally envisaged has failed. In 2010, Ofcom proposed that WSDs would 'either sense the presence of other signals or make use of a geolocation database to determine unused spectrum in their vicinity'¹. Since then, WSD makers have been unable to do either, meaning that the plans designed for WSD implementation no longer apply.

The arrangement proposed in the consultation is extremely unusual; no other users are licensed in such a way. This is exacerbated by the fact that it is unclear whether the licence as presented in the consultation enables the owner to lease multiple devices to other parties. This would lead to a situation in which WSDs were technically licensed by a single user, but were in fact deployed by others whose operations were essentially untraceable. This could cause serious harm to the PMSE sector; this kind of leasing arrangement is not suitable for such new technology.

Programme-making and special events: Future spectrum access

In 2010, Ofcom published a statement called *Programme-making and special events: Future spectrum access*². This not only set out a framework for PMSE spectrum access, but also for the process through which Ofcom would permit other services to access spectrum available to PMSE, including WSDs. As such, BEIRG is surprised that there is no mention of Ofcom's own guidelines in this statement on manually configurable white space devices (MCWSDs); the policies set out in 2010 are very relevant to the issues discussed today.

¹ Ofcom, *Programme-making and special events: Future spectrum access* (August, 2010), p. 20

² Ofcom, *Programme-making and special events: Future spectrum access* (31 August, 2010), <http://stakeholders.ofcom.org.uk/binaries/consultations/bandmanager09/statement/statement310810.pdf>, accessed on 25th March 2015

BEIRG is disappointed at the apparent lack of consideration of the suitability of non-UHF spectrum for MCWSDs. In *Programme-making and special events: Future spectrum access*, Ofcom stated that ‘if a rival service wants to use spectrum available for PMSE, it would have to justify why the incremental value of this spectrum means other existing available spectrum is unsuitable for its needs’³. BEIRG sees no reference to evidence of any such justification.

BEIRG asks Ofcom to urgently consider the suitability of alternative spectrum for MCWSDs. If it is apparent that no such consideration has taken place, BEIRG asks Ofcom to do so urgently. Not only could this resolve PMSE users’ apprehensions about MCWSDs, but Ofcom risks violating their own policy if they do not do so.

Quality Assurance

BEIRG is concerned that the Quality Assurance outlined is not detailed enough to mitigate harmful effects on PMSE users. There is little explanation as to how Ofcom will check that the Quality Assurance facts provided by MCWSD license holders are correct; simply stating that licensees will need to allow Ofcom to check compliance is not enough of a reassurance to PMSE users. In the same way, creating an obligation for licensees to update Ofcom ‘either monthly or as and when a MCWSD is newly installed or established’⁴ is nowhere near regular enough. To diminish the possibility of data manipulation, BEIRG asks Ofcom to remove the option of updating Ofcom once a month. Instead, such updates should be included as a mandatory stage in the installation process; no device should be able to operate without Ofcom first having been notified.

BEIRG asks that Ofcom set out exactly how the Quality Assurance process will protect incumbent users from interference and ensure that MCWSD users are completely honest about the nature of their devices and usage. BEIRG understands that Ofcom would like stakeholders and licensees to have a role in the creation of the Quality Assurance process, but without knowledge of the process’ content, it will be impossible to be certain that MCWSDs will not be harmful to PMSE users.

As the guidelines currently stand, there is no clear reason why MCWSD users could not register their devices as being in one part of the UK and use it in another, or even use it as a mobile device (Type B), whilst maintaining that it is a Type A. Ofcom must introduce a control by which device location has to be confirmed before a MCWSD can transmit.

In addition, BEIRG asks for a definitive statement that, no matter what spectrum MCWSDs use, they would always be a secondary spectrum user to PMSE; as it stands, the primacy of PMSE users is implied, but not defined. This demonstrates how vague the current framework around MCWSD licenses is; it is yet another reason for PMSE users to feel seriously concerned about proposals to introduce WSDs into the UHF band.

MCWSD users have the most to gain from keeping the Quality Assurance process vague and flexible; as such, they should not lead on its development. BEIRG asks for confirmation and detailing of a control arrangement to prevent such abuse of spectrum access.

³Ibid, p. 55

⁴ Ofcom, *Manually configurable white space devices: Consultation on the licensing of manually configurable white space devices operating in the UHF TV band* (27 February 2015), <http://stakeholders.ofcom.org.uk/binaries/consultations/manually-configurable-wsds/summary/manually-configurable-wsds.pdf>, accessed 20 April 2015

Similarly, the nature and purpose of the three year review is uncertain. Ofcom predicts that WSDs will have the power to geolocate very soon, therefore calling into question the purpose of the temporary licensing. If the next generation of WSDs is imminent, there seems to be little purpose in developing a complex and unusual licensing system which could prove problematic for PMSE users. It is surprising that Ofcom's initial intention of introducing licence exempt access to spectrum has now morphed into suggesting the introduction of licences but without guaranteed access to spectrum.

BEIRG reiterates its opposition to sharing spectrum with WSDs; the lack of detail contained in this consultation and the uncertain nature of both the three year review and the Quality Assurance process has increased concern. BEIRG urgently requests that, before taking the licensing of MCWSDs any further, Ofcom fully explains the nature of the Quality Assurance process and details the different steps which could be taken after the three year review.

Conclusion

While not objecting to the principle of WSD technology, BEIRG remains deeply concerned about the inclusion of WSDs in UHF spectrum and of the opinion that WSDs, whether or not they are manually configurable, should not be introduced into interleaved spectrum in which PMSE is a secondary user. The potential for human error, whether deliberate or not, and the uncertain future nature of WSD technology, makes Ofcom's proposal of great concern for PMSE users. BEIRG believes that to continue with the strategy set out in the consultation would be a reckless use of spectrum.

British Entertainment Industry Radio Group

The British Entertainment Industry Radio Group (BEIRG) is an independent, not-for-profit organisation that works for the benefit of all those who produce, distribute and ultimately consume content made using radio spectrum in the UK. Entities that depend on radio spectrum include TV, film, sport, theatre, churches, schools, live music, newsgathering, political and corporate events, and many others. BEIRG campaigns for the maintenance of 'Programme Making and Special Events' (PMSE) access to sufficient quantity of interference-free spectrum for use by wireless production tools such as wireless microphones and wireless in-ear monitor (IEM) systems.

As well as being vital in producing live content, wireless PMSE technologies play a key role in helping to improve security and safety levels within the entertainment industry and other sectors. Their benefits include improving the management of electrical safety, the reduction of noise levels, the development of safety in communications and reducing trip hazards. Wireless equipment and the spectrum it operates in are now crucial to the British entertainment industry.

BEIRG is a member of the Association of Professional Wireless Production Technologies (APWPT)⁵, which 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.

⁵ <http://www.apwpt.org/>