August 11, 2011

ASSOCIATION OF PROFESSIONAL WIRELESS PRODUCTION TECHNOLOGIES

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APWPT

Response to consultation 'Consultation and information on technical conditions for 800 MHz and 2.6 GHz spectrum and related matters'

Two summary statements:

Please be aware that any wrong decision will have an immense impact on the cultural and social life of every citizen of the European Union and UK in particular.

The decision on allocating new IMT services in the band 790 – 862 MHz and 2,6 GHz need to be directly linked to a sustainable harmonised EU solution to prevent building up new borders within EU for cultural life.

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Response

1. This is the APWPT response to Ofcom's consultation on technical licence conditions for the auctions of the 800 MHz and 2.6Ghz spectrum in close collaboration with the British Entertainment Industry Radio Group (Beirg).

2. Professional Programme Making and Special Events (PMSE) users rely extensively on the Interleaved UHF spectrum, or 'White Space', notably for major live events such as the recent Royal Wedding, but also routinely for touring theatre and live music, TV, corporate events and many other day-to-day activities. PMSE have an increasingly international character (Olympic Games, UEFA championship, etc.). APWPT is concerned that out-of-block emissions from LTE 800 base stations will render some interleaved spectrum below 790MHz unusable for PMSE due to interference and in the deregulated audio applications band 863-865 MHz.

3. TV channels that are theoretically available to professional PMSE users at various locations may in practice be rendered unusable due to out-of-block emissions. DTT is not the only service that needs to be protected from LTE interference and it is vital that a strict regulatory approach is adopted in order to protect PMSE use of the remaining interleaved spectrum. Any relaxation of out-of-block EIRP limits or increases in maximum permitted base station EIRP directly threatens the PMSE industry. We strongly urge Ofcom to adopt and monitor the most stringent emissions mask available and to resist any pressure to relax or remove controls on out-of-block emissions or to increase maximum LTE 800 base station EIRP above 59dBm.

4. Despite the major relocation of a considerable number of PMSE users from Channel 69 to Channel 38, many PMSE users have opted not to make the switch and instead opted to move to the deregulated 863-865 MHz band.

5. APWPT is extremely concerned that potential harmful interference from the newly released 800MHz band will render Channel 70 unusable. The risk of interference to Channel 70 users is heightened by the fact that the likely new user of the 800MHz band will be mobile communications. PMSE equipment was never designed with the expectation that it would have to work in adjacent frequencies to LTE equipment, and will be unable to operate if there is any interference from these services. There are many hundreds of thousands of pieces of Channel 70 legacy equipment in operation today. This equipment was bought in good faith with an expectation of a long usable lifespan.

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6. The ERA report[1], and other investigations elsewhere, have clearly shown that there is a very real risk of interference between LTE terminals and audio SRDs. As far as APWPT is aware no investigation has yet been carried out on the effects of "multiple" LTE terminals operating in the vicinity of SRDs - such as when an audience or congregation are present and one or more wireless microphones are in use. It seems likely that this would pose an even more serious risk of harmful interference than a single LTE terminal, since multiple terminals could be transmitting simultaneously contributing to the victim's receiver overload and increasing the cumulative level of out of band emissions in the adjacent SRD band.

7. At present there are many PMSE users who will be unaware that the Channel 69 equipment that they have retained and use in Channel 70 could be rendered redundant. If such users had been informed of this likely outcome earlier, then these users could have at least considered purchasing new equipment. Applications for the funding scheme are now closed. Ofcom must do all it can to prevent interference from the 800MHz band which could prevent these users from using their equipment. Having given advice through Equiniti to use this channel, there is an obligation to ensure this.

8. If protection from interference is not guaranteed, Ofcom must build in a procedure into the technical licence conditions for 800MHz which provides compensation for PMSE users who can no longer use Channel 70. Ofcom may wish to consider re-opening applications to the Channel 69 equipment funding process. This procedure should be clearly based on the principle that the polluter pays for any interference generated.

9. If interference from 800MHz LTE services is so strong that it renders Channel 70 unusable, then Ofcom must consider a scheme which both provides a new channel band for unlicensed PMSE use, as well as providing a compensation scheme to fund the cost of new equipment. Given the large number of domestic consumers with SRD equipment that operates in Channel 70, Ofcom has a duty to embark on a major awareness raising campaign to highlight this potential interference. Thousands of new Channel 70 systems are being sold every week, without warning being given that within a year they may be unusable. As with professional PMSE users, amateur users must be entitled to compensation for their equipment if Channel 70 is rendered unusable.

[1] Investigation on the receiver characteristics of SRD equipment in the 863 – 870 MHz band, http://stakeholders.ofcom.org.uk/binaries/consultations/tlc/annexes/SRD-Study.pdf

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10. The 863-870 MHz band has been carefully planned to be spectrum efficient by CEPT in conjunction with ETSI SRD groups and has resulted in the band plan (a result of considerable compatibility testing by CEPT,ETSI and industry) separating disparate uses. Therefore any interference to this band cannot and may not be tolerated!

11. Not only PMSE equipment in 863-865 MHz will be effected by LTE interference. Also wireless headphones, tour guide systems and interpreter systems live in this band having a great impact on congress and exhibition centres, press and board rooms.

12. APWPT is very concerned on the out of band emissions below 2500 MHz which may cause interference on PMSE applications (e.g. conference systems, wireless intercom, etc) in the 2,4 GHz band.

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Consultation questions

Question 1: Do you have any comment on the proposal to apply the limits defined in Case A of Commission Decision 2010/267/EU for out-of-block emissions from base stations into all frequencies in the range 470 to 790 MHz, as set out in Table 4.4?

APWPT has severe concerns that even Case A will not be sufficient to mitigate interference. Consequently, we would suggest to reduce these figures by at least 3 dB.

Question 2: Do you have any comment on the proposal to set an in-block emission limit of 61dBm/(5 MHz) for base stations in the 800 MHz band?

APWPT welcomes a limit lower than the maximum of 64 dBm/(5MHz) but believes that even this lower than maximum figure of 61dBm/(5MHz) will cause far more interference to many more users than is suggested by the figures and modelling work.

Ofcom's modelling was conducted at a presumed maximum base station power of 59 dBm/(5MHz). 61dBm/(5MHz) is obviously 2dB higher than the figure that was used for the modelling work. Therefore, it follows that the modelling work is invalid and needs to be re-assessed.

Question 3: Do you agree with the proposed conditions on antenna placement that would permit the use of the alternative block-edge mask for restricted unpaired blocks? If not, please explain your reasoning and your alternative proposals, bearing in mind the need to remain consistent with the framework provided in Commission Decision 2008/477/EC.

No comment.

Question 4: Meeting the conditions on the use of the alternative block edge mask for restricted TDD blocks would require certain licensees to share information about the locations of their base stations. Do you agree with this proposed approach?

No comment

Question 5: We welcome comments on stakeholders' preference for the dedicated or hybrid options for low-power shared access as discussed above.

No comment.

Question 6: We welcome comments on the appropriate frequency placement for low-power spectrum blocks.

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No comment.

Question 7: Do you agree with our proposed technical licence conditions for low-power access?

No comment.

Question 8: We welcome comments from stakeholders on the additional restrictions and technical measures we have outlined for the management of interference under the hybrid approach, and the technical licence conditions that would be necessary to implement them.

No comment.

Question 9: Do you agree that a Code of Practice on Engineering Coordination, as outlined, is the appropriate approach to manage the coexistence between low-power licensees?

No comment.

Question 10: Do you agree that we should proceed with the approach that terminal stations complying with the relevant technical parameters be exempted from the requirement for individual licensing?

No. They should all be licensed individually

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Additional information on the APWPT

Who we are?

APWPT is an international non-profit organisation, which is representing the needs of all user of the PMSE sector. Members of APWPT include PMSE organisations, users and manufacturers.

What do we do?

The PMSE sector is critical to the production of content for live entertainment of all genres. This sector extensively utilises wireless equipment such as Wireless Microphones, Wireless In-Ear Monitor Systems, Wireless Talk Back Systems and Wireless Instrument Systems.
For over fifty years wireless products have been used in the entertainment industry. In the past thirty years there have been vast improvements in production value and safety levels as a result of advances in wireless technology.

How do we do it?

The PMSE sector currently relies on the spectrum interleaved between existing TV broadcasts, to enable the use of Radio Microphones, In-Ear- Devices and other short-range wireless devices. This equipment is an essential component of the European Entertainment Industry. Due to their efficient use of spectrum, radio microphones (they do not cause harmful interference and engineers create very defined frequency plans) are hardly noticed.

Who benefits from our activities?

On a daily basis this sector is responsible for the production of content that has received world-wide acclaim and continues to attract a global audience. A vast array of organisations are reliant on radio spectrum for the production of content for Performing Arts, Broadcasting, News Gathering, Independent Film and TV Production, Corporate Events, Concerts, Night Venues, Sports Events, Churches… In addition, other sectors that utilise the current UHF spectrum include the Health Service, Education, Local Government, Political Programming and Conferencing.
In addition these technologies play a vital 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 as well as providing an essential tool for the security orientated services.
Its wireless equipment and the spectrum it operates on are crucial to the European Entertainment Industry.