

To:
LPRA
Mike Brookes

From:
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Reference: RA Consultation on Licence Exempt Spectrum for provision of Public Telecommunication Services

Please note my comments to the individual questions:

Q1: *What are the potential gains and benefits to the UK of allowing commercial services in licence-exempt bands, in terms of new innovative services (business models), promoting competition, and making Britain the best place to do e-business?*

- We cannot see gains or benefits from this action because of the adverse effect of over-crowding these license exempt bands hence causing interference to the present users. 'New emerging and polite technologies' are only used in some cases of the present users.
- Therefore this will be an unbalanced and interference prone situation and the claim of "Britain to be the best place to do e-business" is likely to be questionable in launching unreliable services in business areas by putting these services in already overcrowded SRD bands.

Q2: *Will the introduction of public telecommunication services into existing licence-exempt frequency bands, within the conditions of use identified in Appendix B, result in unacceptable levels of interference to existing users, and if so, in what geographic locations might this be expected?*

- The interference to existing licence exempt users will be unavoidable since many of the bands of table 1, are relatively narrow, therefore not being very attractive to the new users anyhow.
- The interference situation was commented in Q.1.
- The geographic locations due to the short-range nature of the devices and systems used will create hot spots in certain areas as office buildings, industrial, home, ect.

Q3: Would the introduction of public telecommunication services, into existing licence-exempt allocations, and within the current conditions of use identified in Appendix B, result in congestion of the frequency bands?

- See above

Q4: In bands where channel access techniques have been identified for specific services, will these techniques be sufficient to avoid future congestion? If not, please give information about other techniques that might be applicable.

- This is not the right question, since different *channel access (sharing) techniques* might not be efficient and cooperatively work, if used together in one band.
- The sharing techniques in general are: time (DC), frequency (FDMA) or code sharing (CDMA). Channel access techniques could be FDMA or (time) channels (CDMA). These technologies can –or will- be mixed in many or most of the bands as identified in Annex B and generally not compatible or much less efficient than as in cases or bands where a single sharing technology is used.
- The most appropriate technology for the high data rate very short-range equipment which does not suffer interference from or to other locally adjacent equipment, is UWB.
- The advantage of UWB is that a virtually unlimited number of users can be operated in a highly dense area. Also that “conventional” technologies and services in existing bands are not affected. (Except raising the noise floor to a degree). Functionality of other services are not impaired.

Q5: What type of public telecommunication services could be offered in licence-exempt spectrum and what is the anticipated market potential?

- Don't know

Q6: Assuming that there would be a lower quality of service available from public telecommunication services using licence-exempt spectrum, compared to those using licensed spectrum, how could potential end users be informed of this?

- The question is justified since this scenario is real since the *public telecommunication services* will more likely use ‘polite’ technologies while the older and established services use “cruder” sharing methods –if at all (e.g. for some SRD’s); consequently the new business services will suffer.
- The potential users should be informed prior to offering change in ruling.

Q7: Which, if any, frequency bands identified in Appendix B are not suitable for the introduction of public telecommunication services and why?

- VHF and UHF bands must not be used for the anticipated new services. These are populated by large global or regional applications respectively where internationally technologies and/or cross border applications are essential.
- *Public telecommunication services* must not be used here because these services present a large growth rate (making Britain an attractive business place for industrial and business growth).
- The deployment of the new services would be counterproductive to the purpose of introducing new SRD technologies, which cover a number of high volume and mass applications based on already existing international (ISO) standards.
- "Why....? See the answers to the previous questions.
- LF and RF bands also do not lend themselves to public use; they are widely used for SRD's with lower data rates. Most new public telecom services require high data rates. So generally speaking, the RA offers the wrong service to the market (*public telecommunication services*) if offered, in the case of LF and RF case.

Q8: Are there any potential problems associated with allowing commercial services in licence-exempt spectrum?

- The quality of service in *licence-exempt spectrum* is not guaranteed as normally done in commercial services.

Q9: Assuming that public telecommunication services are permitted in licence-exempt spectrum, what would be considered suitable time scales for making these changes in each of the bands identified in Appendix B?

- This depends on the bands, the timescale for 'classic' telecom bands (as DECT, 5 GHz bands) and if similar technologies as presently used, could be mandated, a rather short time scale can be used such as 3 years or so.
- The international or global SRD bands cannot be (re-)used for these public telecom services.
- As indicated such services should instead use UWB as future technologies with all the pro's as indicated in the answer to the Q. 4.

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