

Title:

Forename:

Surname:

Representing:

Organisation

Organisation (if applicable):

Motorola Solutions Ltd

Email:

What do you want Ofcom to keep confidential?:

Keep nothing confidential

If you want part of your response kept confidential, which parts?:

Ofcom may publish a response summary:

Yes

I confirm that I have read the declaration:

Yes

Ofcom should only publish this response after the consultation has ended:

Yes

1: Demand and supply of services:

The Public Protection and Disaster Relief (PPDR) communications segment holds a significant stakeholder interest in the use of the UHF spectrum band, together with Public Service Broadcasting (DTT). Today Terrestrial Broadcasting Services take up almost the entire bands IV and V (over 300 MHz in total) whilst PPDR mission critical voice services takes up only around 1% of that in the band 380 - 400 MHz, hardly enough to cover the requirements for voice communications in the busy urban environment.

However there is today a well studied and documented* demand for advanced PPDR Mobile Broad Band Services at street level, which ideally could be covered by new UHF spectrum as the DSO makes it possible to release a suitable block of spectrum between 470 and 790 MHz.

As illustrated by OFCOM in Fig 1, a contiguous block might be shaped similarly to the

Digital Dividend I as planned by ITU-R RRC04 and 06 (790 - 862 MHz) making room for up to three mobile broadband system operators, each holding 2 times 10 MHz. One of these could be designed to fulfill the stringent requirements to availability and Quality of Service as required by the PPDR services specifications. In order to maximize efficiency and ensure sound spectrum management, it is important that coordination of such new spectrum is established with fellow Member States of CEPT/EU, where coordination efforts are underway through the new multi-annual Radio Spectrum Policy Programme (RSPP).

Furthermore, additional spectrum in the UK should be afforded to PPDR services in order to allow for a proper transition from the Airwave license which expires in 2020. Spectrum for such replacement needs to be allocated well in advance of that date in order to enable and ensure a smooth migration.

* See for instance

http://ec.europa.eu/information_society/policy/ecomm/radio_spectrum/activities/index_en.htm

EU Workshop on "The future of PPDR services in Europe", Brussels, 30 March 2011

2: Technological developments:

The demand for bandwidth to serve mobile PPDR applications is steadily growing. Amongst such applications are real-time, high resolution two-way video, mobile broadband connections for information (text and picture) scanning and transfer from/to street level or low altitude/low speed aircrafts (helicopters), on-line medical data streaming and so on. A common factor of this information is that it must be protected from illegal interception through advanced, dynamic digital crypto applications, which increases the amount of information under transfer and thereby adds to the demand for bandwidth.

This constant, upward trend in the demand for bandwidth is one of the reasons why we fully support the choice of a state-of-the-art mobile broad band technology such as LTE in the service of advanced PPDR communications. LTE is a standard supported world-wide by hundreds of entities, and is constantly under evaluation regarding the next evolutionary step forward.

Advanced antenna technology such as MIMO and Beam-Forming also plays a role in maximizing spectrum efficiency. The UHF band represents a lucrative compromise between realization of large cell (and thereby minimized CAPEX) infrastructures, terminal antenna design and achievable frequency re-use. The 470 - 790 MHz band represents an ideal opportunity to ensure that public protection and disaster relief entities and governments have access to advanced wireless capabilities in the future.

It has been argued that PPDR entities should just make use of public carrier networks to meet their broadband needs. However ample evidence exists to show that commercial carrier networks will not meet the reliability and quality of service requirements of PPDR organizations and that commercial carriers will be reluctant to provide PPDR entities with the priority of service needed, especially in the case of a major emergency or disaster incident. Therefore, we believe that spectrum will be needed for dedicated networks for PPDR applications.

3: International developments:

The European Union

The EU Commission has proposed to the Council and Parliament a multi-annual Radio Spectrum Policy Programme (RSPP) which would set the agenda for pan-EU spectrum coordination efforts up to 2016. The RSPP proposal has now gone through its first reading in Parliament, which ended with adoption of the amendments with a vast majority of MEP's in support of the final Report, which in its Article 7.3 asks the Commission to strive towards an agreement with Member States identifying a pan-EU basis the required amount of spectrum for PPDR Services. Today there is no single market for PPDR broad band equipment and services in Europe We encourage the UK administration to follow developments with respect to the RSPP Article 7.3 text closely through the 2nd reading in Parliament and to help ensure that spectrum can be harmonized for PPDR, which will also result in economies of scale and lower costs of equipment for PPDR entities.

We also encourage the UK administration to influence Article 7.3 in a similar way in the TTE Council.

The CEPT

A new Project Team (FM PT49) on PPDR Spectrum was recently adopted by WG FM for the approval this week of the ECC. The PT49 focused entirely on spectrum for PPDR and is the ideal forum to work on possible future Mandates from the Commission in this field. We look forward to working with the UK Administration in PT49.

The ITU-R (WRC12)

Agenda Item 8.2 on Mobile Broadband addressed at next CPG in Oxford, UK

We have noted that a considerable interest has been shown by Finland, France and GSM Association having agreed to merge their proposals for an agenda item on mobile broadband (including IMT) into one single proposal with two alternative supporting Resolutions. Also Italy and EBU have agreed to merge their proposals for an agenda item on mobile broadband and broadcasting into one single proposal with two alternative supporting Resolutions. Thus there will be 4 inputs on Mobile Broadband (including IMT) at next CPG. We take the view that this initiative is well in line with OFCOM's thoughts relating to the DSO in the band IV and V and we encourage the UK Administration to regard this further release of UHF spectrum as a unique opportunity for identification to the vital PPDR Broad Band Services.

On economies of scale and prices

The market for PPDR equipment is in general very niche oriented, with special stringent technical and operational demands on terminals, infrastructure and accessories. On top of this there is currently no movement towards the establishment of a single market in the EU for advanced broad band PPDR equipment If harmonization of spectrum does not happen, the Single Market will not be established, free movement of state-of-the art and cost-effective PPDR Services across EU Borders will not be possible, and at best a single company will become monopoly supplier to each Member State. The worst case is that PPDR users in a smaller Member State will not be able to attract even a single company to develop products to its spectrum needs, which will strongly impact its ability to deal with Public Protection and Disaster Relief and negatively impact the safety and security of its citizens.

Finally we find that UHF bands IV and V represent a strong candidate for a CEPT/EU wide coordination agreement for PPDR broad band spectrum going forward.

4: Benefits to citizens and consumers:

Notwithstanding the obvious benefits of existing free-to-air Terrestrial Public Service Broadcasting in the UHF Band (including its alert/alarm role in Public Safety and Security) we take the view that PPDR Services also offer essential benefits to all citizens, and there is a high social cost in not providing the PPDR community with the appropriate tools needed for improved incident response and enhanced situational awareness.

PPDR will fit logically into the same spectrum environment offering modest infrastructure CAPEX through large cells and long range of the radio paths. Technically these two Public Services can also co-exist if channelization and spectrum planning takes interference mitigation into account from the VERY beginning. After all the bandwidth requirements of Broad Band PPDR is assessed to 2 x 10 MHz (in line with German studies and the U.S.A.) equivalent to just 2.5 TV Channels.

5: Future timescales:

For the reasons mentioned under 1.14 we recommend that in considering UHF rebalancing, OFCOM should also refer to the similar pan-European efforts initiated through the launch of the RSPP initiative.

The RSPP Decision is expected to be ready for publication in 1Q12 such that the work on identifying common EU PPDR spectrum can be initiated soon thereafter by CEPT and assisted by the EU Commission. At the same time an agenda item (AI 8.2) under WRC12 is likely to be adopted placing this on the WRC16 agenda for the study period 2016 - 2020.

This opens a unique opportunity for CEPT/EU to show the way in Region 1 by a successful completion in 2015 of the RSPP Agenda including the provisions of Article 7.3.

6: Additional comments:

We fully agree with the benefits to the individual and to society of the provision of high-speed mobile wireless broadband capabilities using part of the first Digital Dividend. As noted above, however, we do not believe that the public cellular networks will meet the requirements for such services by PPDR. To assume they will, would result in PPDR personnel not having access to the same degree of technology and broadband capabilities that the average consumer may have, and jeopardizing PPDR's ability to carry out their important mission critical functions. We believe that our first responders and those individuals who provide public protection and disaster response services every day in our communities deserve better than this. We are of the opinion that a relatively small portion of spectrum should be allocated from the digital dividend for use by PPDR for mobile broadband services, and that such spectrum should be regionally and globally harmonized to the extent possible.