

Your response

Question	Your response
<p>Question 1: Do you agree with the planning principles and methodologies that we will use in our work to refine the coverage area plan for small-scale DAB?</p>	<p>Confidential? –No</p> <p>See below for the response</p>
<p>Question 2: Do you agree with our proposed approach to the required technical licence conditions for small-scale radio multiplex services, and the proposed amendments to the Digital Radio Technical Code?</p>	<p>Confidential? – N/A</p>
<p>Question 3: Do you agree with Ofcom’s proposed approach to setting the level of reserved capacity for C-DSP services on small-scale radio multiplex services?</p>	<p>Confidential? – N/A</p>
<p>Question 4: Do you agree with the factors we are proposing to take into account of in deciding the order and timescale in which Ofcom will advertise small-scale radio multiplex licences?</p>	<p>Confidential? –No</p> <p>See below for the response</p>
<p>Question 5: Do you agree with our proposed approach for assessing the technical plans submitted in small-scale radio multiplex licence applications?</p>	<p>Confidential? – N/A</p>
<p>Question 6: Do you agree with our proposed approach for assessing the ability of applicants to establish their proposed small-scale radio multiplex service?</p>	<p>Confidential? – N/A</p>
<p>Question 7: Should Ofcom require that the studio of a C-DSP licensee be located within the coverage area of the small-scale radio multiplex service it plans to broadcast on? Please explain the reasons for your view.</p>	<p>Confidential? – N/A</p>
<p>Question 8: We propose that holders of corresponding analogue community radio and DSP licences apportion their income equally across their licences, unless there are</p>	<p>Confidential? – N/A</p>

compelling reasons why a different apportionment is reasonable. Do you agree with our suggested approach?

Question 9: Do you agree with our proposal that a prospective C-DSP service provider will be able to apply for a C-DSP licence once we have invited applications for the small-scale radio multiplex licence upon which their proposed C-DSP service is intended to be provided?

Confidential? – N/A

Response to Ofcom Consultation on Licensing Small-Scale DAB

Dr Paul D Groves, University College London

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Introduction

Responses are given to Questions 1 and 4 only. I have no comments to make on the other questions.

Question 1: Planning Principles and Methodologies

In general, I agree with the planning principles and methodologies used by Ofcom for small-scale DAB coverage planning. However, I believe that some of the details need to be reconsidered, particularly concerning the proposed macro areas. In my response below, the macro areas are discussed first, followed by future demand and, finally, other issues.

1.1 Macro Areas

Ofcom should aim to serve as much of the population as possible within the macro areas. To do this, it should investigate merging some of the polygons and making more use of sub-band III frequencies. Merging polygons can potentially reduce the number of frequencies required to cover an area, though is by no means guaranteed.

The following mergers in the south east macro area should be investigated:

- Harlow (H) with Chelmsford (I)
- The southern part of Central Suffolk (A) with Ipswich & Felixstowe (B)
- The northern part of Central Suffolk distributed between Bury/Thetford/Mildenhall, Norwich and Great Yarmouth/Lowestoft
- The eastern part of Sittingbourne & The Medway Towns (R) with Canterbury (S)
- The western part of Sittingbourne & The Medway Towns (R) with either SE London & NE Kent (Q) or Maidstone, Tonbridge and Tunbridge (V)

The following mergers in the north west macro area should be investigated:

- The eastern part of Congleton & Leek (S) with Stoke & Newcastle (V)
- The western part of Congleton & Leek (S) with Cheshire East (M)
- Cheshire Mid (R) with either Crewe, Nantwich & Whitchurch (U) or Warrington, Widnes and Runcorn (L) or divided between the two

- Clitheroe (C) with Blackburn, Burnley and Darwen (D)
- Moving Wrexham from North Powys & Wrexham (T) to Rhyl, Ruthin & Mold (P), enabling the remainder of North Powys to be taken out of the macro area as the populated parts are screened by hills and mountains.

Use of the following sub-band III frequencies within the macro areas should be investigated:

- Channel 10D in the eastern part of the north west macro area, potentially polygon D, H, N or O.
- Channel 11C in the western part of the south east macro area, either South Buckinghamshire (J), West London (K), or Reading (O)
- Channel 12A in Central Suffolk (A) and/or Ipswich & Felixstowe (B) within the south east multiplex area, noting that any future expansion of the London 2 multiplex further into Essex would need to be prohibited.

1.2 Future Demand

In the longer term (5-10 years), there is likely to be more demand for small-scale DAB than available frequencies. Parts of the macro areas may remain unservable after completion of the investigations proposed above. There may be demand for a second small-scale DAB multiplex in high-population area. Gaps in coverage may also arise due to multiplex operators leaving part of their polygons unserved.

There may also be future demand for additional multiplexes at the county, regional or national level.

It is therefore recommended that Ofcom free-up further DAB spectrum for use after 2025, of which at least two channels should be made available for small-scale DAB. The best way of doing this is to clear the remaining private mobile radio (PMR) users from VHF band III for the following reasons:

- PMR in band III still uses an analogue standard, in contrast to other VHF spectrum in which more efficient digital standards are used. By moving these users to a newer digital standard, spectrum would be used more efficiently.
- Only the UK uses band III for PMR; it is not an international standard. This limits the market availability of equipment, potentially increasing its cost.
- The spectrum used by PMR in sub-band I is internationally cleared for higher power use by the UK. In the original GE06 plan, France, Belgium and the Netherlands were not allocated spectrum in channels 5C to 7B in UK-facing coastal areas, while Ireland is not currently using its allocated band III spectrum. Consequently, some of these channels could potentially be used for large-scale as well as small-scale DAB within the UK.
- The other user of VHF band III spectrum is programme making and special events (PMSE). PMSE is a more natural choice of user to share spectrum with broadcasting than PMR. Moreover DAB itself is now used for PMSE purposes at international sports events.

1.3 Other Issues

- The Clitheroe, Monmouth and Pitlochry & Aberfeldy polygons serve very small populations. Merging them with neighbours should be considered to make them more viable.
- The Welsh Valleys polygon will require a very large number of transmitters to serve it. As the population is relatively large, Ofcom should consider splitting this area into two.

- A number of major population centres currently have no polygons allocated to them, presumably as no expressions of interest were received. These include Hereford, Inverness, Peterhead & Fraserburgh, Stafford/Rugeley/Cannock and West Lothian. Should small-scale DAB become established nationwide, demand to broadcast in these areas is likely to emerge at a future date. Therefore, frequencies should be reserved for these areas where possible.

Question 4: Order of Advertisement

There are two areas where I disagree with Ofcom's proposals:

- The first licence round of advertisements within the macro areas should specify particular locations instead of being open to all parts of the relevant macro area. This is to enable Ofcom to prioritise the trial areas and areas with particularly high populations, for example North London, South London, Manchester, Guildford/Woking/Aldershot and Liverpool.
- Whether or not the relevant 'large-scale' local multiplex is full should not be a criterion in determining small-scale DAB licence ordering. This is because the multiplexes that are full are typically those owned by a broadcaster (or two broadcasters) who fill up spare capacity with their own quasi-national services which are carried at minimal net cost. They may therefore likely to be willing to replace some of these with fee-paying services from other broadcasters.

I would also like to propose the following additional criteria for considering advertisement order:

- Areas should be given priority if they are not currently served by any 'large-scale' local multiplex and there are no plans to serve them in the near future. This should include areas which are licensed but not actually served, such as Aberystwyth, Kings Lynn and Salisbury.
- Where cities are divided into two or more polygons, such as Aberdeen, Birmingham, Bristol, Hull and London, these should be advertised together to support those broadcasters who wish to serve the whole city.
- Priority should also be given to areas in which community radio applications have been rejected due to insufficient FM frequency availability.

About the Author

Dr Paul D Groves is an Associate Professor in Engineering at University College London. He is an internationally-recognised expert in navigation and positioning technology, including radio-based techniques, such as GPS. He has a side interest in radio broadcasting and his 2014 proposal to use VHF channels 7D, 8A, 8B, 9A, 9B and 9C for small-scale DAB was adopted by Ofcom the following year.