Oxford small-scale DAB multiplex

Coverage and transmitter details (Block 8B)

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1. Overview

This document shows an estimate of the coverage provided by the Oxford small-scale radio multiplex service, along with supporting technical information.

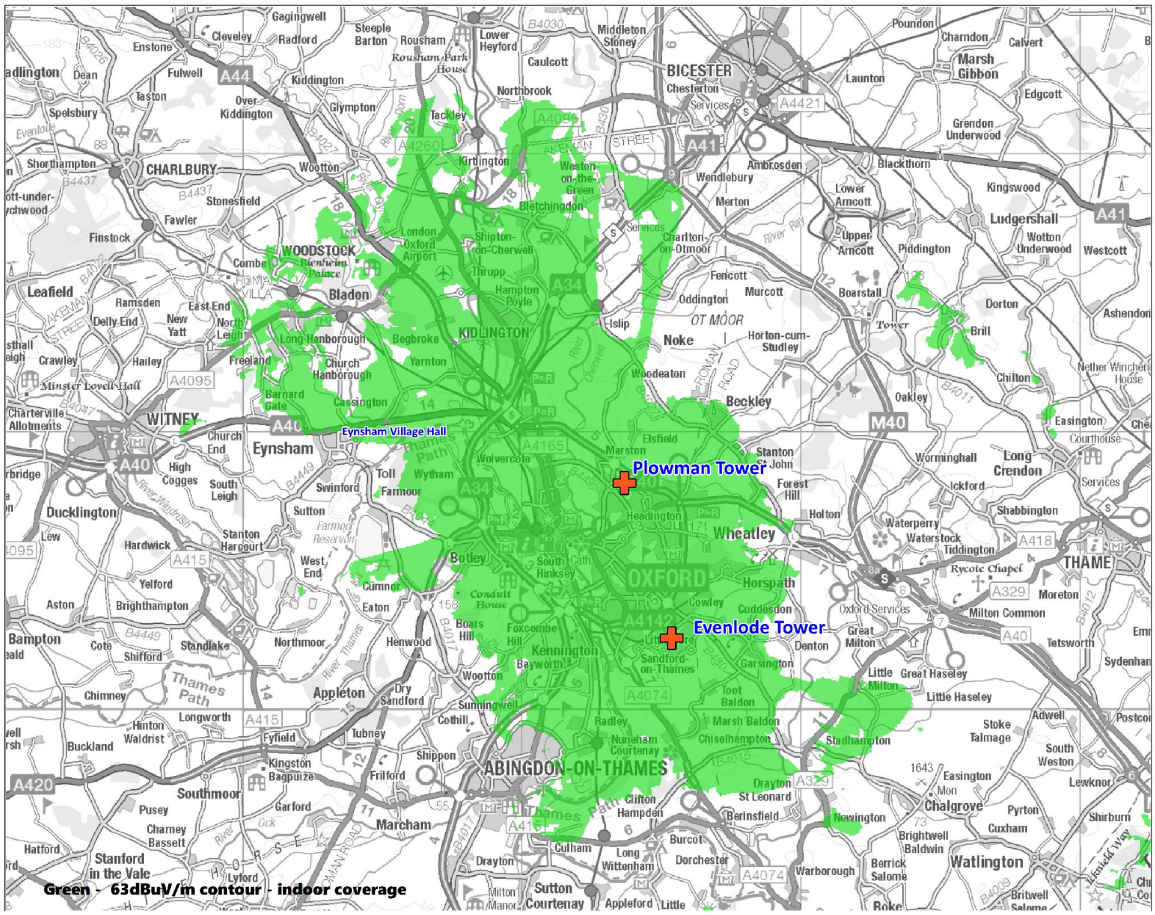
The map indicates where the small-scale radio multiplex service should be receivable on a DAB digital radio within a typical domestic building.

However, please note the following caveats:

- The map is based on computer predictions rather than actual measurements, so is indicative only.
- Receivable is based on the defined signal level required by a receiver that meets the minimum receiver specification (available here: Minimum specifications for DAB and DAB+ personal and domestic digital radio receivers: Digital radio action plan report - GOV.UK (www.gov.uk)), although that level may not be adequate for receivers built to a poorer sensitivity, or be sufficient in every location.
- The map does not take account of any interference from other DAB digital radio services. The likelihood of any such interference will increase as more DAB services are launched, but Ofcom will seek to reduce the impact as far as is reasonably practicable.
- The map does not show where reception outside homes (e.g. along roads) may be possible.

2. Coverage map for the Oxford small-scale DAB multiplex

Figure 1: Predicted indoor coverage of the Oxford small-scale DAB multiplex. April 2024



3. Oxford small-scale DAB transmission details

Transmission parameters of the multiplex service

Table 1: General transmission parameters for the Oxford small-scale DAB multiplex

Oxford small-scale DAB parameters	
T-DAB block number	8B
Block centre frequency	197.648 MHz
Polarisation	Vertical Only
Adult population coverage	162,000

Transmitter characteristics

Table 2: Transmitter sites used for the Oxford small-scale DAB multiplex

Site name	NGR	Site height (m)	Aerial height (m)	Power (watts)	Antenna D=directional ND = non-directional
Oxford - Evenlode Tower	SP 55361 02626	64	53	100	D
Oxford - Plowman Tower	SP 53668 08213	68	47	150	D

A1: Derivation of coverage maps: technical background

All small-scale digital radio (DAB) services have a specified licence area which is defined by the coverage achieved by its transmitter network. This coverage is shown on the map. Any locations falling outside of this area are neither counted as part of the coverage nor does Ofcom seek to protect them from interference.

The coverage indicated does not represent or imply any warranty by Ofcom that the technical conditions which form the basis of its definition are satisfied at all points within the area shown, nor that these conditions would not be satisfied at locations outside of that area. The associated technical conditions represent a conservative average threshold (for the specified measure) for generally acceptable indoor reception for most circumstances: some listeners may find these thresholds too low to deliver what they would like, and others enjoy what they regard as adequate reception under worse conditions than those corresponding to these thresholds. Reception quality can differ rapidly with changing location, to a more detailed extent than is shown on the map.

A figure for the population served by the small-scale digital radio (DAB) service is given in Table 1 and a predicted coverage map in Figure 1. The licensed coverage is based on indoor coverage, i.e. for areas that are predicted to be served by a minimum field strength of 63dBµV/m at 10m above ground level which corresponds to providing a service at 80% location probability and 50% time availability.

These maps do not take account of:

- hole-punching interference which may cause localised blocking around any DAB transmitter site not used by the wanted service; or
- interference from other services operating on the same frequency block.

The map represents power-summed coverage where the power received from individual transmitters is summed at each prediction point. A location is considered served if the calculated outdoor field strength at ten metres above ground level is at least 63 dBµV/m. This equates to the coverage of 80% of locations indoors as defined in Ofcom's technical policy guidance for DAB multiplex licensees. The prediction is calculated for normal propagation conditions.

Indoor coverage indicates where a radio with an indoor aerial within a typical domestic building should receive an adequate signal to operate satisfactorily. This measure takes account of the average expected losses as the signal passes through the walls of the building. Using a radio that carries the Digital Radio Tick Mark will help increase the likelihood that reliable reception will be possible. The Digital Radio Tick Mark is a certification mark established in 2013 for digital radios that requires the radio to be tested and approved, showing that it meets certain standards of performance and functionality.

Due to the short frequency re-use distance between small-scale DAB services, Ofcom only seeks to protect indoor coverage. While outdoor reception (by vehicles and outdoor radios) may be possible in places outside the predicted indoor coverage area, this may change over time and be eroded as more small-scale and continental DAB services come into operation. As a general rule, Ofcom will only protect contiguous coverage and significant population centres beyond contiguous coverage.

We will not seek to protect scattered rural and hilltop coverage outside the contiguous coverage area.