About this data: Mobile coverage

To create the Connected Nations Spring 2025 update, Ofcom collected and analysed data from the four mobile network operators. The data was collected as a snapshot in January 2025. The Methodology annex to our Connected Nations 2024 report provides details of our approach to collecting and analysing mobile coverage data.

Due to variations in mobile performance over time, the files should not be regarded as a definitive and fixed view of the UK's mobile infrastructure. However, the information provided in these files may be useful in identifying variations in mobile performance by geography.

If you have any questions or feedback on the data, please contact us at cndatateam@ofcom.org.uk.

We are providing this data on an open basis via the Open Government Licence, which gives users various freedoms about how they choose to use the data, subject to conditions.

The files are provided as Comma Separated Values files, with double quote (“) text delimiters where applicable.

Mobile coverage file for UK and Nations

This file contains a subset of the data points provided on the page “Mobile Coverage: Operator comparison” of the accompanying interactive report.

File name	Number of data rows	File size
202501_mobile_coverage_UK_and_Nations_r01.csv	735	51 KB

Column headers and what they represent:

Field	Values	Description/Notes
Location	UK, England, Northern Ireland, Scotland, Wales	
Technology	4G, 5G high confidence, 5G very high confidence	The signal strength thresholds used when estimating coverage are provided at the end of this document
Coverage type	Premises (Outdoor), Premises (Indoor), Geographic	Premises (Indoor) only for 4G
Rurality	Total, Urban, Rural	

Field	Values	Description/Notes
MNO	At least one, All, None, EE, O2, Three, Vodafone	The operator(s) providing coverage
Coverage percentage		Percentage of premises or pixels covered
Coverage volume		Number of premises or pixels covered
Date	Jan-25	Date of latest snapshot (Mon-YY)

Other mobile coverage files

We provide one file with mobile coverage at the local and unitary authority level and one at the Westminster parliamentary constituency level.

Ref	File name	Level	Number of data rows	File size
laua	202501_mobile_coverage_laua_r01.csv	Local and Unitary Authority	361	241 KB
pcon	202501_mobile_coverage_pcon_r01.csv	Parliamentary Constituency	650	408 KB

Column headers and what they represent:

Field	In files	Description
laua	laua	Local or Unitary Authority code, such as S12000033
laua_name	laua	Local or Unitary Authority name
parl_const	pcon	Parliamentary Constituency code, such as E14001318
parl_const_name	pcon	Parliamentary Constituency name
prem_count	Both	Number of premises in location
pixel_count	Both	Number of 100m x 100m pixels in location
ab_rd_count	Both	Number of 100m x 100m pixels in location containing A or B road features

Field	In files	Description
mway_count	Both	Number of 100m x 100m pixels in location containing motorway features
mway_ard_count	Both	Number of 100m x 100m pixels in location containing motorway or A road features
[Service]_[Coverage type]_[Number of operators] (see below)	Both	Percentage of premises or pixels in location for [Coverage type] with coverage for [Service] from [Number of operators]. For example: 4G_prem_in_2: the percentage of premises with indoor 4G coverage from exactly 2 operators

Both files have 164 columns with coverage for the following combinations of service, coverage type and number of operators:

Variable	Values	Description/Notes
Service	2G, 3G, 4G, Voice, Data, 5G_high_confidence, 5G_very_high_confidence	See below for the signal strength thresholds used when estimating coverage
Coverage type (Note 1)	prem_out	Premises outdoor
	prem_in	Premises indoor
	geo_out	Geographic
	abrd_in	A and B roads (in-car)
	mway_in	Motorways (in-car)
	mway_ard_in	Motorways and A roads (in-car)
Number of operators (Note 2)	0, 1, 2, 3, 4	Maximum three MNOs for 2G and four for all other services

Notes:

1. For 5G services, only outdoor coverage information is provided (prem_out and geo_out)
2. All 3G columns for 3 and 4 operators are empty, reflecting that two of the four MNOs have completed their 3G switch-off. We will remove all 3G columns once all 3G networks have been switched off.
3. Coverage from at least one MNO can be calculated as 100% minus the percentage for coverage from 0 operators.

Signal strength thresholds

We use the following signal strength thresholds when estimating coverage (further detail can be found in the Methodology Annex):

Service		Metric[1]	Outdoor	Indoor and in-car
2G		RxLev	-81dBm	-71dBm
3G		RSCP CPiCH	-100dBm	-90dBm
4G		RSRP	-105dBm	-95dBm
Voice	2G	RxLev	-81dBm	-71dBm
	3G	RSCP CPiCH	-100dBm	-90dBm
	4G	RSRP	-105dBm	-95dBm
Data	3G	RSCP CPiCH	-100dBm	-90dBm
	4G	RSRP	-115dBm	-105dBm
5G high confidence		SS-RSRP	-110dBm	N/A
5G very high confidence		SS-RSRP	-100dBm	N/A

[1] **RxLev:** the Received Signal Level in 2G networks.
RSCP CPiCH: the Received Signal Code Power on the primary Common Pilot Channel for 3G networks.
RSRP: the Reference Signal Received Power in 4G networks.
SS-RSRP: the Synchronization Signal Reference Signal Received Power in 5G networks.