

## About this data: Mobile coverage, local and unitary authority area

To create our [Connected Nations 2021 report](#), Ofcom collected and analysed data from all the mobile network operators. This file contains mobile network coverage information from the operators. Further information is available in [our methodology](#).

The coverage availability was collected as a snapshot in September 2021.

Due to variations in mobile performance over time, the file should not be regarded as a definitive and fixed view of the UK's mobile infrastructure. However, the information provided in this file 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 [open.data@ofcom.org.uk](mailto:open.data@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 a Comma Separated Values file, with double quote (") text delimiters where applicable.

### Revision note

[15 Feb 2022] - Correction of the label for the fields 4G\_prem\_in\_X, Voice\_prem\_in\_X and Data\_prem\_in\_X, with 'geographic (indoor)' replaced by 'premises (indoor)'.

## Coverage availability

File name: 202109\_mobile\_laua\_r01.csv

Total records in file: 1 header row, 374 data rows

File size: 221 KB (226,752 bytes)

### Column headers and what they represent:

Field	Label	Note
<b>laua</b>	Lower tier authority	Local and Unitary Authority Codes, such as E07000114
<b>laua_name</b>	Lower tier authority name	Local and Unitary Authority Names
<b>pixel_count</b>	Number of 100sq.m. pixels in location	
<b>prem_count</b>	Number of premises in location	Based on the Connected Nations all premise base definition
<b>ab_rd_count</b>	Number of 100sq.m. pixels in location containing A or B road features	
<b>mway_count</b>	Number of 100sq.m. pixels in location containing Motorway features	
<b>mway_ard_count</b>	Number of 100sq.m. pixels in location containing Motorway or A road features	
<b>2G_prem_out_0</b>	2G services, premises (outdoor): no reliable signal (%)	Threshold:-81dBm
<b>2G_prem_out_1</b>	2G services, premises (outdoor): signal from 1 operator (%)	Threshold:-81dBm
<b>2G_prem_out_2</b>	2G services, premises (outdoor): signal from 2 operators (%)	Threshold:-81dBm

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<b>2G_prem_out_3</b>	2G services, premises (outdoor): signal from all operators (%)	Threshold:-81dBm
<b>2G_prem_in_0</b>	2G services, premises (indoor): no reliable signal (%)	Threshold:-71dBm
<b>2G_prem_in_1</b>	2G services, premises (indoor): signal from 1 operator (%)	Threshold:-71dBm
<b>2G_prem_in_2</b>	2G services, premises (indoor): signal from 2 operators (%)	Threshold:-71dBm
<b>2G_prem_in_3</b>	2G services, premises (indoor): signal from all operators (%)	Threshold:-71dBm
<b>2G_geo_out_0</b>	2G services, geographic (outdoor): no reliable signal (%)	Threshold:-81dBm
<b>2G_geo_out_1</b>	2G services, geographic (outdoor): signal from 1 operator (%)	Threshold:-81dBm
<b>2G_geo_out_2</b>	2G services, geographic (outdoor): signal from 2 operators (%)	Threshold:-81dBm
<b>2G_geo_out_3</b>	2G services, geographic (outdoor): signal from all operators (%)	Threshold:-81dBm
<b>2G_abrd_in_0</b>	2G services, roads: no reliable signal (%)	Threshold:-71dBm
<b>2G_abrd_in_1</b>	2G services, roads: signal from 1 operator (%)	Threshold:-71dBm
<b>2G_abrd_in_2</b>	2G services, roads: signal from 2 operators (%)	Threshold:-71dBm
<b>2G_abrd_in_3</b>	2G services, roads: signal from all operators (%)	Threshold:-71dBm
<b>2G_mway_in_0</b>	2G services, motorways: no reliable signal (%)	Threshold:-71dBm
<b>2G_mway_in_1</b>	2G services, motorways: signal from 1 operator (%)	Threshold:-71dBm
<b>2G_mway_in_2</b>	2G services, motorways: signal from 2 operators (%)	Threshold:-71dBm

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<b>2G_mway_in_3</b>	2G services, motorways: signal from all operators (%)	Threshold:-71dBm
<b>2G_mway_ard_in_0</b>	2G services, motorways and A-roads: no reliable signal (%)	Threshold:-71dBm
<b>2G_mway_ard_in_1</b>	2G services, motorways and A-roads: signal from 1 operator (%)	Threshold:-71dBm
<b>2G_mway_ard_in_2</b>	2G services, motorways and A-roads: signal from 2 operators (%)	Threshold:-71dBm
<b>2G_mway_ard_in_3</b>	2G services, motorways and A-roads: signal from all operators (%)	Threshold:-71dBm
<b>3G_prem_out_0</b>	3G services, premises (outdoor): no reliable signal (%)	Threshold:-100dBm
<b>3G_prem_out_1</b>	3G services, premises (outdoor): signal from 1 operator (%)	Threshold:-100dBm
<b>3G_prem_out_2</b>	3G services, premises (outdoor): signal from 2 operators (%)	Threshold:-100dBm
<b>3G_prem_out_3</b>	3G services, premises (outdoor): signal from 3 operators (%)	Threshold:-100dBm
<b>3G_prem_out_4</b>	3G services, premises (outdoor): signal from all operators (%)	Threshold:-100dBm
<b>3G_prem_in_0</b>	3G services, premises (indoor): no reliable signal (%)	Threshold:-90dBm
<b>3G_prem_in_1</b>	3G services, premises (indoor): signal from 1 operator (%)	Threshold:-90dBm
<b>3G_prem_in_2</b>	3G services, premises (indoor): signal from 2 operators (%)	Threshold:-90dBm
<b>3G_prem_in_3</b>	3G services, premises (indoor): signal from 3 operators (%)	Threshold:-90dBm
<b>3G_prem_in_4</b>	3G services, premises (indoor): signal from all operators (%)	Threshold:-90dBm
<b>3G_geo_out_0</b>	3G services, geographic (outdoor): no reliable signal (%)	Threshold:-100dBm

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<b>3G_geo_out_1</b>	3G services, geographic (outdoor): signal from 1 operator (%)	Threshold:-100dBm
<b>3G_geo_out_2</b>	3G services, geographic (outdoor): signal from 2 operators (%)	Threshold:-100dBm
<b>3G_geo_out_3</b>	3G services, geographic (outdoor): signal from 3 operators (%)	Threshold:-100dBm
<b>3G_geo_out_4</b>	3G services, geographic (outdoor): signal from all operators (%)	Threshold:-100dBm
<b>3G_abrd_in_0</b>	3G services, roads: no reliable signal (%)	Threshold:-90dBm
<b>3G_abrd_in_1</b>	3G services, roads: signal from 1 operator (%)	Threshold:-90dBm
<b>3G_abrd_in_2</b>	3G services, roads: signal from 2 operators (%)	Threshold:-90dBm
<b>3G_abrd_in_3</b>	3G services, roads: signal from 3 operators (%)	Threshold:-90dBm
<b>3G_abrd_in_4</b>	3G services, roads: signal from all operators (%)	Threshold:-90dBm
<b>3G_mway_in_0</b>	3G services, motorways: no reliable signal (%)	Threshold:-90dBm
<b>3G_mway_in_1</b>	3G services, motorways: signal from 1 operator (%)	Threshold:-90dBm
<b>3G_mway_in_2</b>	3G services, motorways: signal from 2 operators (%)	Threshold:-90dBm
<b>3G_mway_in_3</b>	3G services, motorways: signal from 3 operators (%)	Threshold:-90dBm
<b>3G_mway_in_4</b>	3G services, motorways: signal from all operators (%)	Threshold:-90dBm
<b>3G_mway_ard_in_0</b>	3G services, motorways and A-roads: no reliable signal (%)	Threshold:-90dBm
<b>3G_mway_ard_in_1</b>	3G services, motorways and A-roads: signal from 1 operator (%)	Threshold:-90dBm

<b>3G_mway_ard_in_2</b>	3G services, motorways and A-roads: signal from 2 operators (%)	Threshold:-90dBm
<b>3G_mway_ard_in_3</b>	3G services, motorways and A-roads: signal from 3 operators (%)	Threshold:-90dBm
<b>3G_mway_ard_in_4</b>	3G services, motorways and A-roads: signal from all operators (%)	Threshold:-90dBm
<b>4G_prem_out_0</b>	4G services, premises (outdoor): no reliable signal (%)	Threshold:-105dBm
<b>4G_prem_out_1</b>	4G services, premises (outdoor): signal from 1 operator (%)	Threshold:-105dBm
<b>4G_prem_out_2</b>	4G services, premises (outdoor): signal from 2 operators (%)	Threshold:-105dBm
<b>4G_prem_out_3</b>	4G services, premises (outdoor): signal from 3 operators (%)	Threshold:-105dBm
<b>4G_prem_out_4</b>	4G services, premises (outdoor): signal from all operators (%)	Threshold:-105dBm
<b>4G_prem_in_0</b>	4G services, premises (indoor): no reliable signal (%)	Threshold:-95dBm
<b>4G_prem_in_1</b>	4G services, premises (indoor): signal from 1 operator (%)	Threshold:-95dBm
<b>4G_prem_in_2</b>	4G services, premises (indoor): signal from 2 operators (%)	Threshold:-95dBm
<b>4G_prem_in_3</b>	4G services, premises (indoor): signal from 3 operators (%)	Threshold:-95dBm
<b>4G_prem_in_4</b>	4G services, premises (indoor): signal from all operators (%)	Threshold:-95dBm
<b>4G_geo_out_0</b>	4G services, geographic (outdoor): no reliable signal (%)	Threshold:-105dBm
<b>4G_geo_out_1</b>	4G services, geographic (outdoor): signal from 1 operator (%)	Threshold:-105dBm
<b>4G_geo_out_2</b>	4G services, geographic (outdoor): signal from 2 operators (%)	Threshold:-105dBm

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<b>4G_geo_out_3</b>	4G services, geographic (outdoor): signal from 3 operators (%)	Threshold:-105dBm
<b>4G_geo_out_4</b>	4G services, geographic (outdoor): signal from all operators (%)	Threshold:-105dBm
<b>4G_abrd_in_0</b>	4G services, roads: no reliable signal (%)	Threshold:-95dBm
<b>4G_abrd_in_1</b>	4G services, roads: signal from 1 operator (%)	Threshold:-95dBm
<b>4G_abrd_in_2</b>	4G services, roads: signal from 2 operators (%)	Threshold:-95dBm
<b>4G_abrd_in_3</b>	4G services, roads: signal from 3 operators (%)	Threshold:-95dBm
<b>4G_abrd_in_4</b>	4G services, roads: signal from all operators (%)	Threshold:-95dBm
<b>4G_mway_in_0</b>	4G services, motorways: no reliable signal (%)	Threshold:-95dBm
<b>4G_mway_in_1</b>	4G services, motorways: signal from 1 operator (%)	Threshold:-95dBm
<b>4G_mway_in_2</b>	4G services, motorways: signal from 2 operators (%)	Threshold:-95dBm
<b>4G_mway_in_3</b>	4G services, motorways: signal from 3 operators (%)	Threshold:-95dBm
<b>4G_mway_in_4</b>	4G services, motorways: signal from all operators (%)	Threshold:-95dBm
<b>4G_mway_ard_in_0</b>	4G services, motorways and A-roads: no reliable signal (%)	Threshold:-95dBm
<b>4G_mway_ard_in_1</b>	4G services, motorways and A-roads: signal from 1 operator (%)	Threshold:-95dBm
<b>4G_mway_ard_in_2</b>	4G services, motorways and A-roads: signal from 2 operators (%)	Threshold:-95dBm
<b>4G_mway_ard_in_3</b>	4G services, motorways and A-roads: signal from 3 operators (%)	Threshold:-95dBm

<b>4G_mway_ard_in_4</b>	4G services, motorways and A-roads: signal from all operators (%)	Threshold:-95dBm
<b>Voice_prem_out_0</b>	Voice services, premises (outdoor): no reliable signal (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_out_1</b>	Voice services, premises (outdoor): signal from 1 operator (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_out_2</b>	Voice services, premises (outdoor): signal from 2 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_out_3</b>	Voice services, premises (outdoor): signal from 3 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_out_4</b>	Voice services, premises (outdoor): signal from all operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_in_0</b>	Voice services, premises (indoor): no reliable signal (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_in_1</b>	Voice services, premises (indoor): signal from 1 operator (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_in_2</b>	Voice services, premises (indoor): signal from 2 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_in_3</b>	Voice services, premises (indoor): signal from 3 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_prem_in_4</b>	Voice services, premises (indoor): signal from all operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_geo_out_0</b>	Voice services, geographic (outdoor): no reliable signal (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_geo_out_1</b>	Voice services, geographic (outdoor): signal from 1 operator (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_geo_out_2</b>	Voice services, geographic (outdoor): signal from 2 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_geo_out_3</b>	Voice services, geographic (outdoor): signal from 3 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_geo_out_4</b>	Voice services, geographic (outdoor): signal from all operators (%)	See below for 2G, 3G, 4G threshold levels



<b>Voice_abrd_in_0</b>	Voice services, roads: no reliable signal (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_abrd_in_1</b>	Voice services, roads: signal from 1 operator (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_abrd_in_2</b>	Voice services, roads: signal from 2 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_abrd_in_3</b>	Voice services, roads: signal from 3 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_abrd_in_4</b>	Voice services, roads: signal from all operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_in_0</b>	Voice services, motorways: no reliable signal (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_in_1</b>	Voice services, motorways: signal from 1 operator (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_in_2</b>	Voice services, motorways: signal from 2 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_in_3</b>	Voice services, motorways: signal from 3 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_in_4</b>	Voice services, motorways: signal from all operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_ard_in_0</b>	Voice services, motorways and A-roads: no reliable signal (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_ard_in_1</b>	Voice services, motorways and A-roads: signal from 1 operator (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_ard_in_2</b>	Voice services, motorways and A-roads: signal from 2 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_ard_in_3</b>	Voice services, motorways and A-roads: signal from 3 operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Voice_mway_ard_in_4</b>	Voice services, motorways and A-roads: signal from all operators (%)	See below for 2G, 3G, 4G threshold levels
<b>Data_prem_out_0</b>	Data services, premises (outdoor): no reliable signal (%)	See below for 3G, 4G threshold levels

<b>Data_prem_out_1</b>	Data services, premises (outdoor): signal from 1 operator (%)	See below for 3G, 4G threshold levels
<b>Data_prem_out_2</b>	Data services, premises (outdoor): signal from 2 operators (%)	See below for 3G, 4G threshold levels
<b>Data_prem_out_3</b>	Data services, premises (outdoor): signal from 3 operators (%)	See below for 3G, 4G threshold levels
<b>Data_prem_out_4</b>	Data services, premises (outdoor): signal from all operators (%)	See below for 3G, 4G threshold levels
<b>Data_prem_in_0</b>	Data services, premises (indoor): no reliable signal (%)	See below for 3G, 4G threshold levels
<b>Data_prem_in_1</b>	Data services, premises (indoor): signal from 1 operator (%)	See below for 3G, 4G threshold levels
<b>Data_prem_in_2</b>	Data services, premises (indoor): signal from 2 operators (%)	See below for 3G, 4G threshold levels
<b>Data_prem_in_3</b>	Data services, premises (indoor): signal from 3 operators (%)	See below for 3G, 4G threshold levels
<b>Data_prem_in_4</b>	Data services, premises (indoor): signal from all operators (%)	See below for 3G, 4G threshold levels
<b>Data_geo_out_0</b>	Data services, geographic (outdoor): no reliable signal (%)	See below for 3G, 4G threshold levels
<b>Data_geo_out_1</b>	Data services, geographic (outdoor): signal from 1 operator (%)	See below for 3G, 4G threshold levels
<b>Data_geo_out_2</b>	Data services, geographic (outdoor): signal from 2 operators (%)	See below for 3G, 4G threshold levels
<b>Data_geo_out_3</b>	Data services, geographic (outdoor): signal from 3 operators (%)	See below for 3G, 4G threshold levels
<b>Data_geo_out_4</b>	Data services, geographic (outdoor): signal from all operators (%)	See below for 3G, 4G threshold levels
<b>Data_abrd_in_0</b>	Data services, roads: no reliable signal (%)	See below for 3G, 4G threshold levels
<b>Data_abrd_in_1</b>	Data services, roads: signal from 1 operator (%)	See below for 3G, 4G threshold levels

<b>Data_abrd_in_2</b>	Data services, roads: signal from 2 operators (%)	See below for 3G, 4G threshold levels
<b>Data_abrd_in_3</b>	Data services, roads: signal from 3 operators (%)	See below for 3G, 4G threshold levels
<b>Data_abrd_in_4</b>	Data services, roads: signal from all operators (%)	See below for 3G, 4G threshold levels
<b>Data_mway_in_0</b>	Data services, motorways: no reliable signal (%)	See below for 3G, 4G threshold levels
<b>Data_mway_in_1</b>	Data services, motorways: signal from 1 operator (%)	See below for 3G, 4G threshold levels
<b>Data_mway_in_2</b>	Data services, motorways: signal from 2 operators (%)	See below for 3G, 4G threshold levels
<b>Data_mway_in_3</b>	Data services, motorways: signal from 3 operators (%)	See below for 3G, 4G threshold levels
<b>Data_mway_in_4</b>	Voice services, motorways: signal from all operators (%)	See below for 3G, 4G threshold levels
<b>Data_mway_ard_in_0</b>	Data services, motorways and A-roads: no reliable signal (%)	See below for 3G, 4G threshold levels
<b>Data_mway_ard_in_1</b>	Data services, motorways and A-roads: signal from 1 operator (%)	See below for 3G, 4G threshold levels
<b>Data_mway_ard_in_2</b>	Data services, motorways and A-roads: signal from 2 operators (%)	See below for 3G, 4G threshold levels
<b>Data_mway_ard_in_3</b>	Data services, motorways and A-roads: signal from 3 operators (%)	See below for 3G, 4G threshold levels
<b>Data_mway_ard_in_4</b>	Data services, motorways and A-roads: signal from all operators (%)	See below for 3G, 4G threshold levels

### Signal thresholds

We use the following signal strength thresholds when estimating coverage:

Service		Metric	Outdoor	Indoor and in-car
2G		RxLev	-81dBm	-71dBm
3G		RSCP CPiCH	-100dBm	-90dBm
4G Voice		RSRP	-105dBm	-95dBm
4G Data		RSRP	-115dBm	-105dBm
Voice:	2G	RxLev	-81dBm	-71dBm
	3G	RSCP CPiCH	-100dBm	-90dBm
	4G	RSRP	-105dBm	-95dBm
Data:	3G	RSCP CPiCH	-100dBm	-90dBm
	4G	RSRP	-115dBm	-105dBm