Substantiation of reliability, data & voice claims across UK cities carried out by:

umlaut connect

18th April 2023

SUBSTANTIATION OF CLAIMS

Vodafone's achievements in the benchmark:

Most Reliable Network in London

Most Reliable Network in Liverpool

Best Network for Voice in London

Best Network for Voice in Leeds

Best Network for Voice in Liverpool

Best Network for Voice in Manchester

Most Reliable Network for Voice in London

Most Reliable Network for Voice in Leeds

Most Reliable Network for data in Birmingham

Most Reliable Network for data in Liverpool

SUMMARY

Vodafone's achievements, as listed above, are based on umlaut connect's 2023 Mobile Network Test in the United Kingdom. The report uses drive and walk tests carried out November 9th – November 26th 2022, and crowdsourcing data from 24 weeks in May – November 2022. It assesses the maximum capability of networks with regard to voice, data and crowd, as well as overall reliability and 5G services.

UMLAUT CONNECT BENCHMARK

Umlaut connect have carried out comprehensive benchmarks of the UK's mobile networks for eight years, which has helped providers to demonstrate how they deliver wireless connections to their customers. The reports look into voice and data reliability, crowd performance as well as overall reliability. It is an independent evaluation that provides a fair, neutral and transparent insight into network capability. The report compares four network operators; Vodafone, EE, Three and O2.

METHODOLOGY

The benchmark report uses a holistic approach that ensures the maximum capability of networks is assessed. This is done through 'drive' and 'walk' testing, as well as crowdsourcing analysis.

Drive testing is assessed using four measurement vehicles, equipped with two Samsung Galaxy phones, two (Samsung Galaxy S21+) for taking voice measurements and generic conversation apps, and one (Samsung Galaxy S22+) for data measurements. The drive tests covered 10,380km of the UK, visiting 19 cities and 40 towns.

Walk testing is partly measured by 'big city' walk tests, where two walk test teams visit ten large UK cities. Measurements were taken in highly concentrated areas, including railway stations concourses, airport terminals, cafes, public transport and museums. It also investigated network performance on long-distance railway lines and commuter railway lines. The drive and walk testing collected data in an area hosting 17.37 million people.

Crowdsourcing data sought to assess how the network arrives at the end users. Thousands of popular apps were used to assess a number of measurements over a 15-minute period, that indicated the quality the network was providing in key areas.

Measurements from all testing covered a variety of areas, such as voice clarity; data performance; broadband coverage; active and passive downloads; active uploads; latency; Youtube use; voice; stability; call set up time and speech quality. In the drive and walk testing, 204,767 data samples were collected and 30,758 voice samples. The crowdsourcing testing covered 99.8% of the population.

The robust testing strategy ensures mobile network performance is measured in a variety of places that providers' customers commonly find themselves in need of effective connectivity, as well as covering a vast area to ensure reliability and accuracy of the results.

Umlaut collates these measurements to assess overall reliability for voice, data and in a crowd, and overall performance in the UK's largest cities (London, Birmingham, Manchester, Liverpool and Leeds).

ACHIEVEMENTS IN THE BENCHMARK

Most Reliable Network in London/Liverpool:

Overall reliability is assessed by looking at the key performance indicators of the testing to evaluate how the operators meet compulsory basic standards. The resulting scores reflect the standard of service that a user can reasonably expect from the mobile network.

- In London, Vodafone achieved a reliability score of 262. This ranks above EE's score of 261, 244 for Three and 234 for O2, making Vodafone the most reliable network in London.

- In Liverpool, Vodafone achieved a reliability score of 276. This ranks above Three's score of 275, 263 for EE and 235 for O2, making Vodafone the most reliable network in Liverpool.

Best Network for Voice in London/Leeds/Liverpool/Manchester:

Voice tests collate a variety of data to assess which network provides the best service in relation to phone calls. They use data from drive and walk tests in cities, towns, roads and railways, and score the providers via phone call success ratio; time taken to set up the call; speech quality on a call; and multi-RAB (radio access bearer) connectivity.

- In London, Vodafone achieved a score of 151 for voice, compared to 148 for Three, 147 for EE and 133 for O2, making Vodafone the best network for voice in London.

- In Leeds, Vodafone achieved a score of 156 for voice, compared to 153 for EE, 142 for Three and 127 for O2, making Vodafone the best network for voice in Leeds.

- In Liverpool, Vodafone achieved a score of 159 for voice, compared to 158 for Three, 156 for EE and 132 for O2, making Vodafone the best network for voice in Liverpool.

- In Manchester, Vodafone achieved a score of 159, compared to 158 for EE, 149 for Three and 140 for O2, making Vodafone the best network for voice in Manchester.

Most Reliable Network for Voice in London/Leeds

Voice reliability uses the key performance indicators from the voice drive and walk test data to establish what users can reasonably expect from network providers calling services.

- In London, Vodafone achieved a score of 86 for voice reliability, compared to 80 for EE, 80 for Three and 79 for O2, making Vodafone the most reliable network for voice in London.

- In Leeds, Vodafone achieved a score of 88 for voice reliability, compared to 84 for EE, 82 for O2 and 79 for Three, making Vodafone the most reliable network for voice in Leeds.

Most Reliable Network for data in Liverpool/Birmingham

Data reliability uses the key performance indicators from the data drive and walk test data to establish what users can reasonably expect from network providers data services.

- In Liverpool, Vodafone achieved a score of 121 for data reliability, compared to 118 for Three, 106 for EE and 92 for O2, making Vodafone the most reliable network for data in Liverpool.

- In Birmingham, Vodafone achieved a score of 121 for data reliability, compared to 120 for EE, 100 for Three and 81 for O2, making Vodafone the most reliable network for data in Birmingham.

APPENDIX

All figures above are sourced from The 2023 Mobile Network Test in the United Kingdom by umlaut connect: 202212_umlaut_connect_Mobile_Network_Test_UK.pdf