

NET CHECK

Substantiation of Vodafone's
Best Network in Belfast and
Liverpool and Most Reliable
Network in Belfast,
Birmingham, Bristol, Liverpool
and Sheffield claims carried
out by NET CHECK

27th August 2024 – 19th September 2024

SUBSTANTIATION OF CLAIMS

Claim:

Belfast's Best Network
Liverpool's Best Network
Belfast's Most Reliable Network
Birmingham's Most Reliable Network
Bristol's Most Reliable Network
Liverpool's Most Reliable Network
Sheffield's Most Reliable Network

SUMMARY

The claims "Belfast's Best Network", "Liverpool's Best Network", "Belfast's Most Reliable Network", "Birmingham's Most Reliable Network", "Bristol's Most Reliable Network", "Liverpool's Most Reliable Network" and "Sheffield's Most Reliable Network" achieved by Vodafone are based on NET CHECK's mobile benchmark that was carried out between August 27th and September 19th 2024, across the United Kingdom.

The purpose of the benchmark was to assess the overall performance of the mobile networks in terms of accessibility, reliability, and quality of typical telecommunication services like voice calls, internet browsing, live video streaming, online gaming, online meetings as well as data up- and downloading.

This report is an independent evaluation that compares the network capabilities of four network operators: Vodafone, EE, Three, and O2.

NET CHECK BENCHMARK

NET CHECK was founded in 1999 as a company with the main field of expertise in improving quality of telecommunication networks. In the years to follow, NET CHECK has become a renowned partner of network operators and infrastructure providers for design, construction, operation, and optimisation of mobile and fixed communication networks of all technologies.

As part of the NC Group, NET CHECK is independent of any industry stakeholders. It is also a trusted partner of scientific and government institutions due to its high level of expertise, data quality and security.

To follow its mission to improve the network quality, NET CHECK has developed a number of communication network testing products.

The NET CHECK Benchmark is a testing procedure that measures the performances of different networks. It follows the NET CHECK Methodology, devised for evaluating user experience, and compares the different network operators by creating a ranking.

METHODOLOGY

The NET CHECK Benchmarking methodology strives to provide a precise, unbiased and balanced assessment of network performances. It is based on ETSI (European Telecommunications Standards Institute) standards that were further developed by NET CHECK's experts.

The methodology is updated once a year in accordance with the technology and industry development.

In order to simulate user behavior, NET CHECK performs a series of tests across a geographically representative area using state-of-the-art technology. The measurement sets consist of equipment produced by the market leader Rohde & Schwarz and one of the latest commercially available Android smartphones, Samsung Galaxy S23+. Using commercially available tariffs ensures to reflect the real user experience.

The assessment is based on data collected during a comprehensive series of drive tests. To ensure that the data sample provides a representative and accurate view of the network's overall performance, these drive tests are conducted extensively, along the highways, main and rural roads, and along the city streets. Testing is carried out during both weekdays and Saturdays to capture a broad range of network conditions and user behaviors, ensuring a thorough evaluation of the network's capabilities.

This approach allows performance measurement of Data and Voice services for all the network operators simultaneously and at the same locations, averts bias and warrants credible comparison.

Voice services are tested in regular calls, WhatsApp calls and data being sent during regular calls. Data services are tested by performing data up- and downloads, web browsing, live video streaming and interactivity testing which simulates online gaming and online meetings. These test activities are repeated throughout the entire duration of the measurements.

The collected data is verified and analyzed to calculate Key Performance Indicators (KPIs). These KPIs form the basis for the ranking and are distinguished in two services: Data services and Voice services.

The maximum ranking for an operator is 1.000 ranking points, where 350 points is the maximum for voice services and 650 points is the maximum for data services.

The assessment criteria and ranking weights are determined exclusively by NET CHECK's experts.

THE RESULTS

Facts from NET CHECK's tests conducted in August / September 2024 across 5 big cities: Belfast, Birmingham, Bristol, Liverpool and Sheffield:

- 5 big cities
- 777 km driven
- 960 test calls performed on average, per operator
- 11,500 speech samples collected on average, per operator
- 11,000 data samples collected on average, per operator

Best Network in Belfast/Liverpool

The best network assesses the network in both voice and data services. It considers all available aspects of modern mobile communication including communications through OTT applications, classical phone calls, web browsing, file uploads and downloads, online meetings and e-gaming.

- In Belfast, out of 1,000 possible best network ranking points, Vodafone achieved the highest ranking with 947.70 points, EE achieved 934.91 points, O2 achieved 840.71 points and Three 691.92 points. As a result, NET CHECK concludes that Vodafone is the best network in Belfast.
- In Liverpool, out of 1,000 possible best network ranking points, Vodafone achieved the highest ranking with 959.61 points, EE achieved 954.40 points, O2 achieved 911.50 and Three achieved 814.12 points. As a result, NET CHECK concludes that Vodafone is the best network in Liverpool.

Most Reliable Network in Belfast/Birmingham/Bristol/Liverpool/Sheffield

Reliability measurements focus on key performance indicators that reflect the overall availability and reliability of the network more than the variety of options and peak performances.

- In Belfast, out of 1,000 possible most reliable network ranking points, Vodafone achieved the highest ranking with 965.25 points, EE achieved 930.56 points, O2 achieved 874.06 and Three achieved 604.08 points. As a result, NET CHECK concludes that Vodafone is the most reliable network in Belfast.
- In Birmingham, out of 1,000 possible most reliable network ranking points, Vodafone achieved the highest ranking with 937.34 points, EE achieved 919.83 points, O2 achieved 707.05 and Three achieved 683.02 points. As a result, NET CHECK concludes that Vodafone is the most reliable network in Birmingham.
- In Bristol, out of 1,000 possible most reliable network ranking points, Vodafone achieved the highest ranking with 956.90 points, EE achieved 931.23 points, O2 achieved 801.85 and Three achieved 671.89 points. As a result, NET CHECK concludes that Vodafone is the most reliable network in Bristol.
- In Liverpool, out of 1,000 possible most reliable network ranking points, Vodafone achieved the highest ranking with 983.57 points, EE achieved 966.07

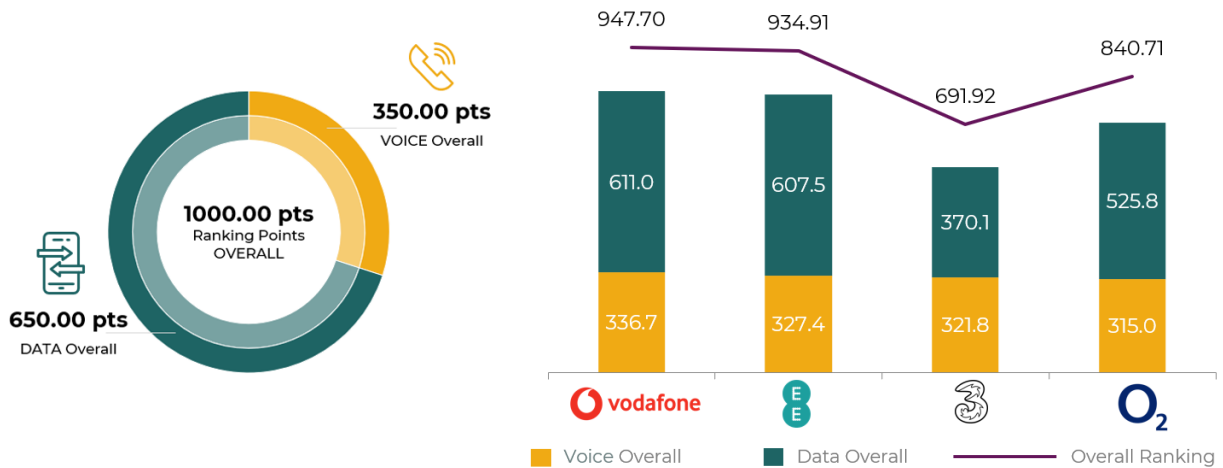
points, O2 achieved 908.43 and Three achieved 699.34 points. As a result, NET CHECK concludes that Vodafone is the most reliable network in Liverpool.

- In Sheffield, out of 1,000 possible most reliable network ranking points, Vodafone achieved the highest ranking with 965.60 points, EE achieved 956.49 points, O2 achieved 908.11 and Three achieved 787.13 points. As a result, NET CHECK concludes that Vodafone is the most reliable network in Sheffield.

Full verification details can be found on the following link [to be updated](#)

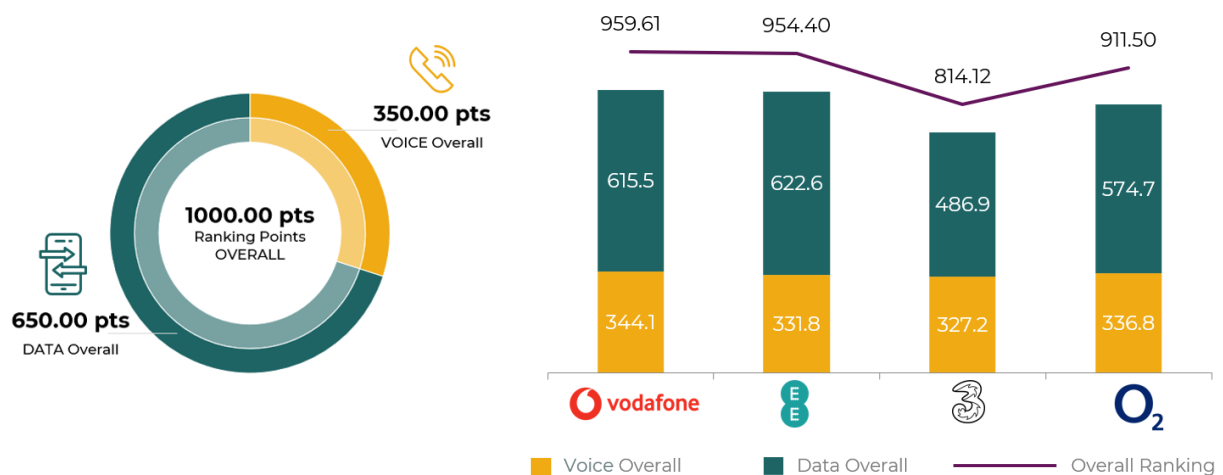
Best Network Ranking Results from the Mobile Network Benchmark in Belfast

executed by NET CHECK between August 27th and September 19th 2024



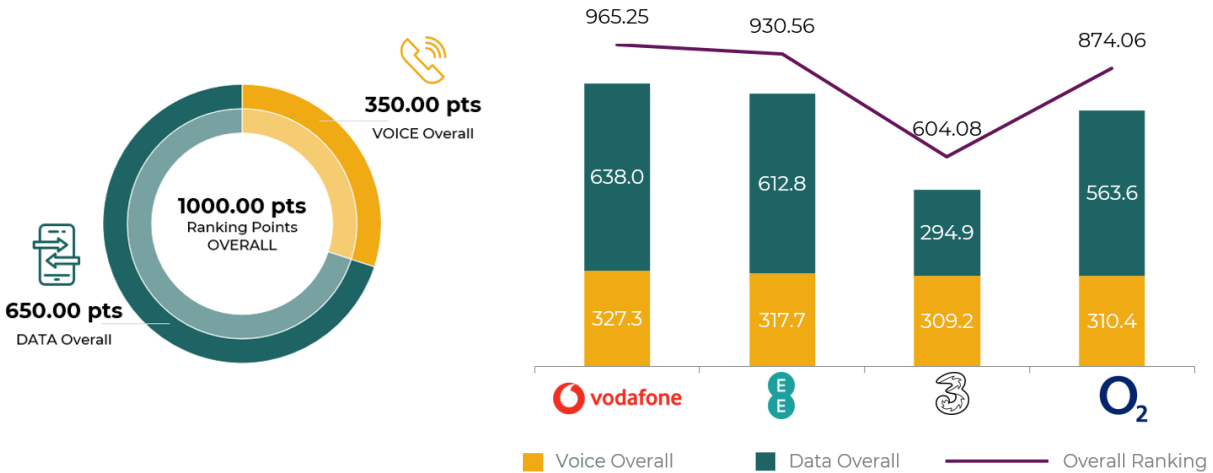
Best Network Ranking Results from the Mobile Network Benchmark in Liverpool

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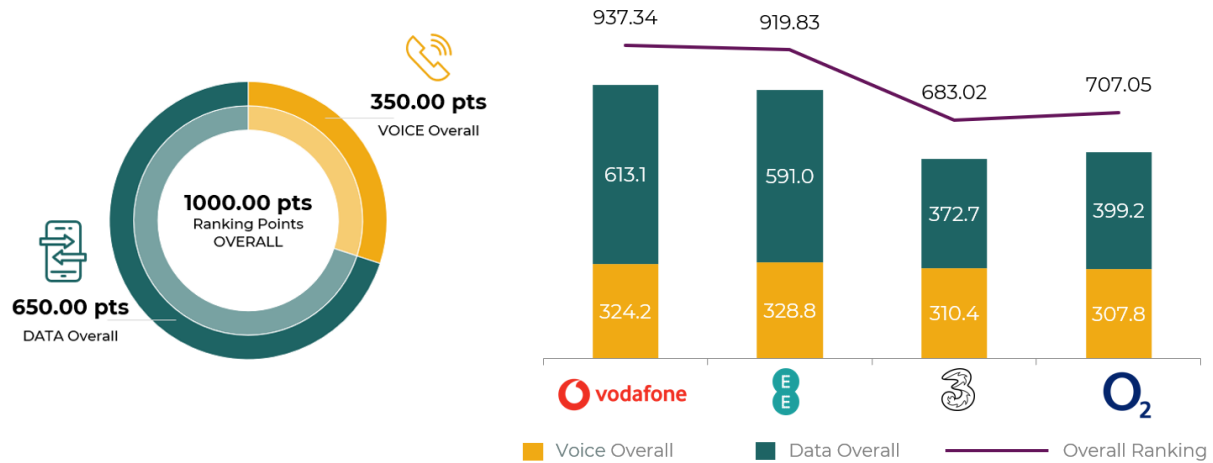
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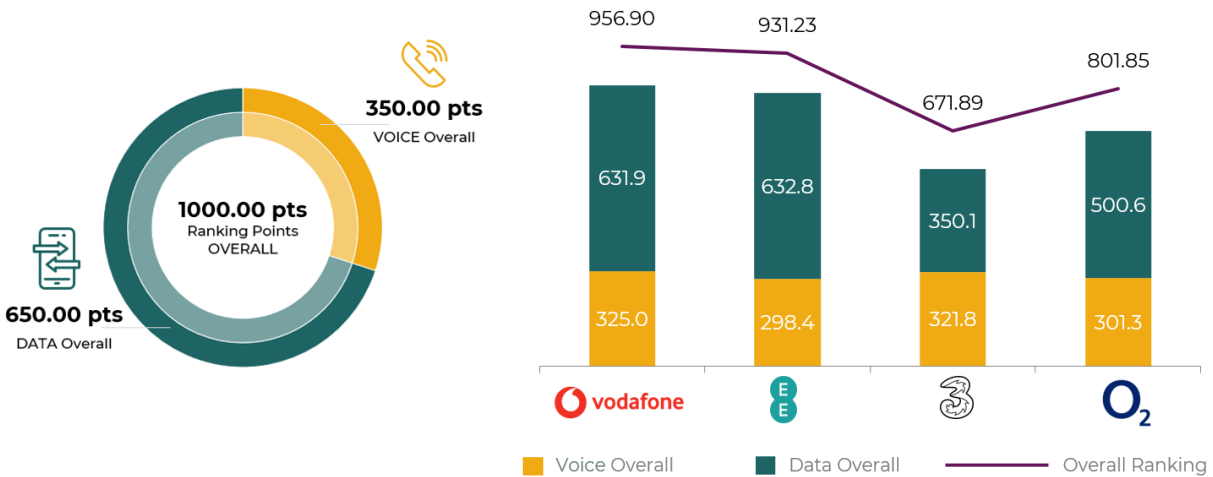
Most Reliable Network Ranking Results from the Mobile Network Benchmark in Birmingham

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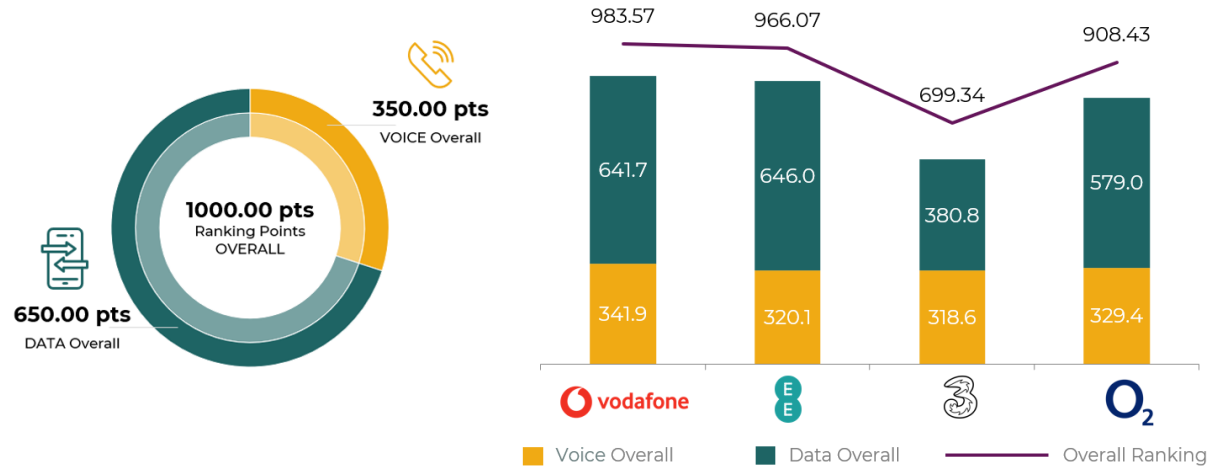
Most Reliable Network Ranking Results from the Mobile Network Benchmark in Bristol

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Most Reliable Network Ranking Results from the Mobile Network Benchmark in Liverpool

executed by NET CHECK between August 27th and September 19th 2024



Most Reliable Network Ranking Results from the Mobile Network Benchmark in Sheffield

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