

# CERTIFICATE

**ROHDE & SCHWARZ**

Make ideas real



Rohde & Schwarz SwissQual AG, as the issuer of this document, certifies that



**Telia Norge AS**

Lørenfaret 1A  
0580 Oslo  
Norway

attained the

## Best Scored Browsing & Social Media Experience

for Norway, assessed during the 2024 mobile network benchmarking campaign from October 09 to November 02, 2024. We congratulate **Telia Norway** for ranking first with a score of **205 out of 240 points** on the Rohde & Schwarz Network Performance Score in line with ETSI TR 103 559.

**Axel Hansmann**

CEO Rohde & Schwarz SwissQual AG



Link to benchmarking  
campaign details



Scoring methodology in  
line with ETSI TR 103 559

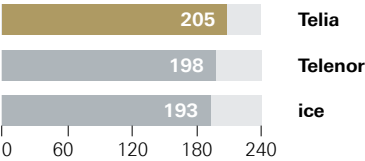


# NETWORK PERFORMANCE SCORE

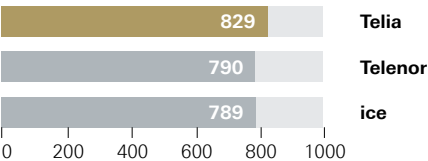
Rohde & Schwarz SwissQual AG performed a mobile network benchmarking campaign assessing the quality and performance of Norway's leading mobile operators. The drive-test based data collection campaign was implemented from October 9 to November 2, 2024 and covered Norway's major cities, towns and roads.

During this mobile network benchmarking campaign, over 53,300 data tests were performed to calculate a Network Performance Score in line with ETSI TR 103 559.

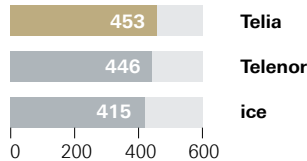
## Browsing / Social Media Score



## Network Performance Score



## Data Service Score





## Measurement campaign overview

- ▶ **Driven kilometers:** approx. 5,500 km
- ▶ **Time period:** October 9 to November 2, 2024  
independently selected by Rohde & Schwarz SwissQual AG
- ▶ **Test routes:** Covering >50% of Norwegian population,  
routes selected independently by Rohde & Schwarz SwissQual AG  
based on population and population density
- ▶ **Network operators:** Telia, Telenor, ice

# MEASUREMENT CAMPAIGN METHODOLOGY

Rohde & Schwarz SwissQual AG applied a fully transparent, harmonized and end-user centric scoring methodology as described in ETSI TR 103 559 and calculates a single overall Network Performance Score in line with this integrative methodology.

The scoring methodology includes essential aspects of popular mobile services and the resulting Network Performance Score reflects user's perceived performance of a mobile network in daily use regardless of the available technologies. The overall Network Performance Score is an aggregation of rated service performance over different regions covered by mobile networks with a state-of-art mobile phone.

- ▶ Data collection and analysis follows established standards and rules as defined in ETSI and ITU-T.
- ▶ The performance assessment uses tests of popular services in mobile networks, such as voice telephony, data transfer, video and app-specific services.
- ▶ The applied methodology provides insights into dedicated service classes and individual KPIs as well as for individual pre-defined geographical or morphologic categories.
- ▶ The entire measurement campaign used state-of-the art smartphones supported by all operators in Norway.
- ▶ Data collection and analysis used Rohde & Schwarz SwissQual AG de-facto industry standard benchmarking equipment that supports the Network Performance Score methodology.
- ▶ All measurements were performed in 5G preferred mode.

# MEASUREMENT CAMPAIGN CONFIGURATION AND SETUP

## DATA SERVICE TESTING

Measurement device used for data service testing: Samsung S24 Ultra (SM-S928B)



### Web Browsing

- ▶ Accessing and retrieving web-content from different websites
- ▶ Testing of locally popular dynamic sites in different sizes
- ▶ In line with ITU-T E.804.1 and ETSI TR 103 733, success and download time evaluated



### Post to Social Media

- ▶ Uploading data content (images) to WhatsApp
- ▶ In line with ITU-T E.804.1, success and transfer time evaluated

## About Rohde & Schwarz SwissQual AG

Together with teams from the global Rohde & Schwarz group of companies, our employees in the Swiss Rohde & Schwarz SwissQual AG subsidiary develop and market integrated solutions and managed services to test and improve the quality and performance of mobile networks.

Our experts for global benchmarking campaigns plan and run large-scale optimization and benchmarking campaigns and empower customers to make QoE centric business decisions with confidence, to deliver better services with higher quality for their end users, to reduce time to market for new technologies and services and to safeguard and increase the value of their business.

For more information about Rohde&Schwarz products visit:

[www.rohde-schwarz.com/mnt](http://www.rohde-schwarz.com/mnt)

For more information about mobile network testing managed services visit:

[www.rohde-schwarz.com/mnt/network-analytics-services](http://www.rohde-schwarz.com/mnt/network-analytics-services)

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Telia Norway sponsored an independent evaluation of its mobile network performance that was conducted by Rohde&Schwarz SwissQual AG. Telia Norway was ranked with the leading performance score in Norway based on an ETSI approved methodology.