Visualizing Mobile Network Quality

NCC & Ookla National Coverage Map

ITU-T SG12 Workshop

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1. Project Initiation & Goals
2. Actionable Visual Insights
3. Lessons Learned & Impact

Downdetector

150M+
unique users

25M+
mo. problem reports

25K+
services monitored

60+
countries

SPEEDTEST

600M+
app installs

11M+
daily tests

60B+
tests to date

15K+
global test servers

Billions
of daily crowdsourced network performance samples

Tens of Millions
of data points on NPS, subscriber ratings, and consumer sentiment

Millions
of miles of controlled drive and walk network surveys

Defining the Future of Connectivity

Ookla data is used by governments, regulators, standards bodies, NGOs, academic institutions, trade groups, and analysts to solve the biggest connectivity challenges

FCC · Ofcom · ITU · GSA · ctia · Metaverse Standards Forum · GSMA · cca · OECD · Wireless Broadband Alliance

The Global Media's Trusted Source

170K+ articles published annually referencing Ookla brands

270B+ unique monthly impressions on publications citing Ookla data

73.2% share of voice for Ookla and Speedtest combined in network intelligence

Global Reach and Impact

90% of the Fortune 500 trust Ekahau networking insights

5K+ Enterprise clients for Ookla in over 120 countries

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Growing Strategic Engagements Across Africa

Project Initiation & Goals

Project Initiation & Goals

The Partnership

A collaborative effort between the Nigeria Communications Commission (NCC) and Ookla.

Transparency

Provide public-facing data on actual network performance and how they compare with operator-reported data.

Consumer Empowerment

Enable citizens to make highly informed choices about their service providers in their specific areas.

Drive Improvement

Identify areas that need investment and incentivize operators to enhance nationwide service quality through competitive visibility.

Data Collection Methodology

ITU-T Framework

Fully compliant with Recommendation E.813 data gathering standards for telecommunication quality.

Crowdsourced Data

Utilizes millions of data points collected daily via the Speedtest application worldwide.

Key Metrics

Focuses heavily on Download Speed (performance) and Signal Strength (coverage).

Multi-Technology

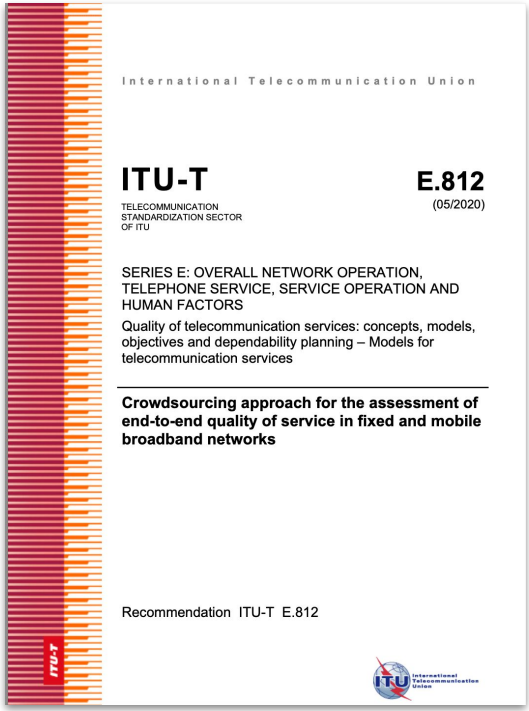
Seamlessly maps coverage across 2G, 3G, 4G, and 5G networks for comprehensive analysis.

Hybrid Approach

Overlays independent crowdsourced data with official MNO reported coverage to provide a validated, objective view of network availability.

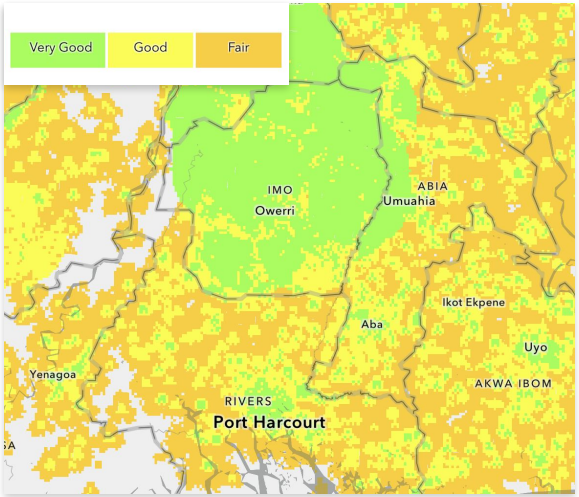
What is crowdsourced network testing?

- "**Crowdsourced data collection** is a method of obtaining data or information by soliciting contributions from **a large number of people**, often via the internet. It is categorized into **active** and **passive** measurements."
- "**Active data collection** methods create artificial traffic with the intention to assess end-to-end QoS parameters…Active tests may be specifically designed to saturate the network, and therefore produce a more accurate measure representing the peak end-to-end performance at the point of test."w
- "**Passive data collection** passive data collection produces measurements representing the end-to-end performance experienced by users under actual users' usage at that point in time…they act more as an observer of radio parameters, the end-user's transferred data, and collect information regarding the actual traffic."
- "In cases where the end-user is required to deliberately start data collection, the tests are classified as **end-user initiated**. On the other hand, if data collection occurs programmatically by pre-established start rules, it is classified as **automated**"

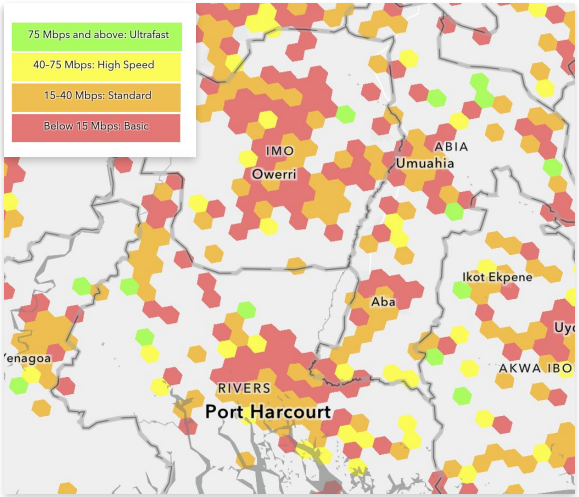


Actionable Visual Insights

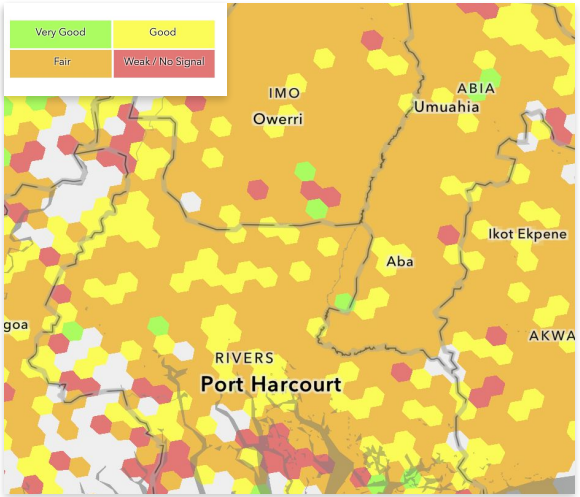
Access Multiple Datasets to Evaluate Mobile Networks



Reported Coverage
View the coverage level for an area as reported by the mobile network operator.

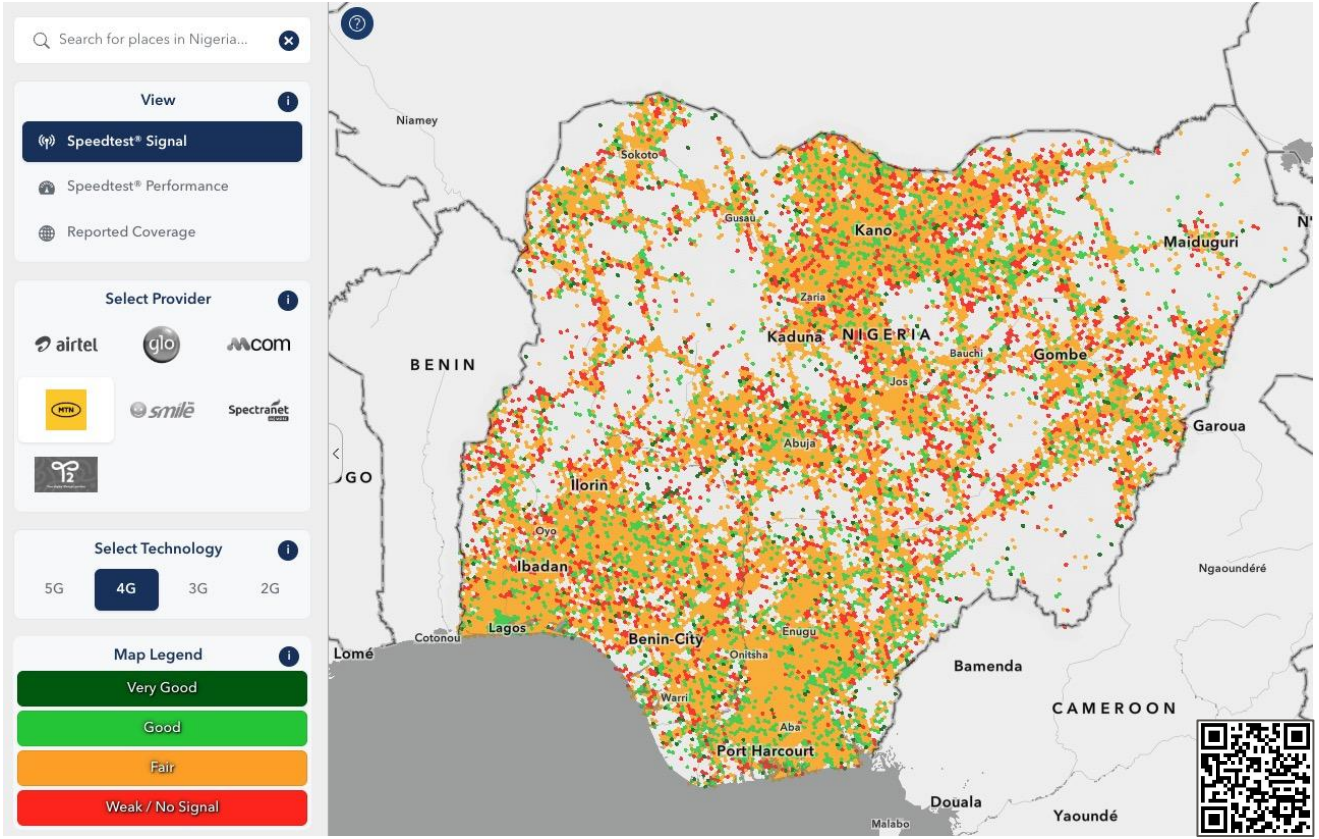


Speedtest Performance
View real-world Download Speeds based on millions of daily consumer-initiated tests taken with Speedtest



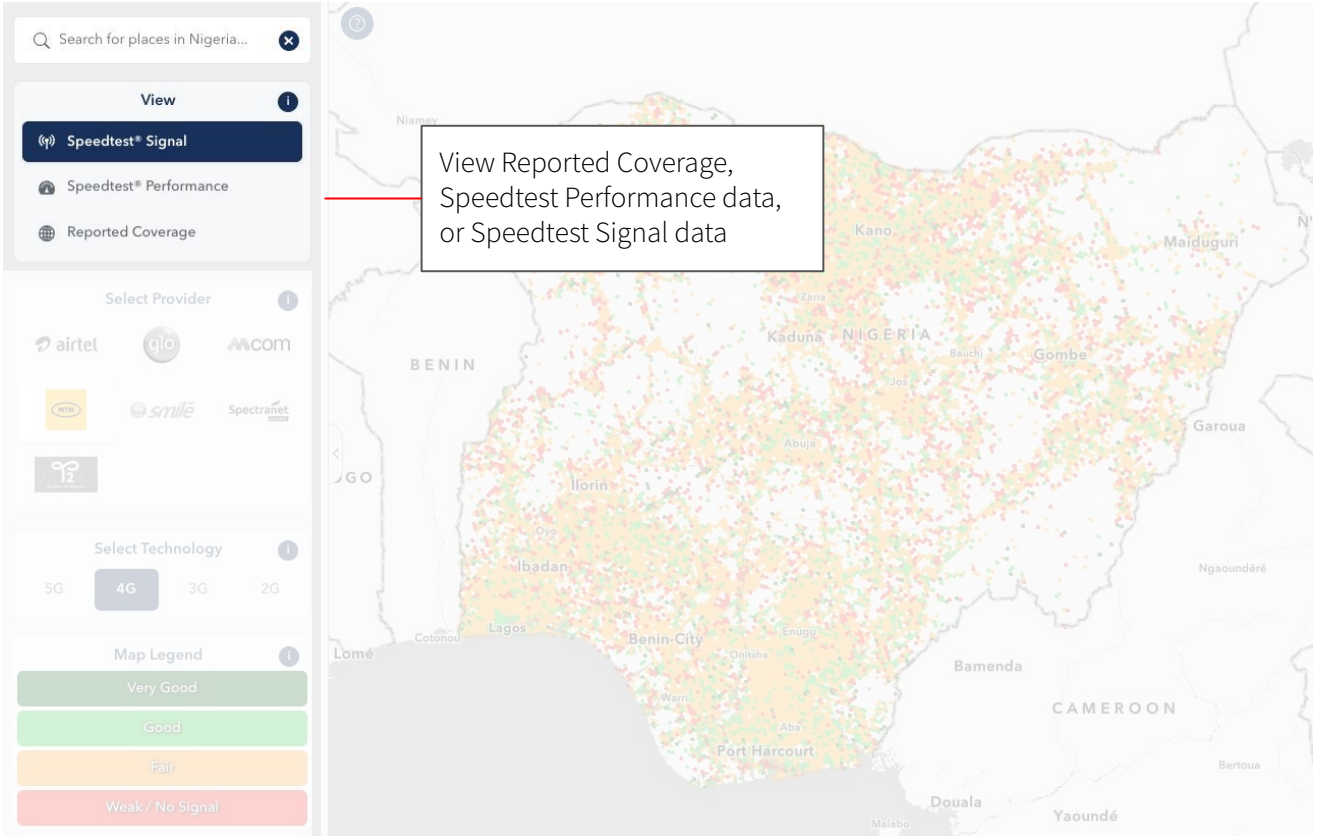
Speedtest Signal
View real-world signal data based on billions of daily signal scans from Speedtest

NCC Public Map – Overview



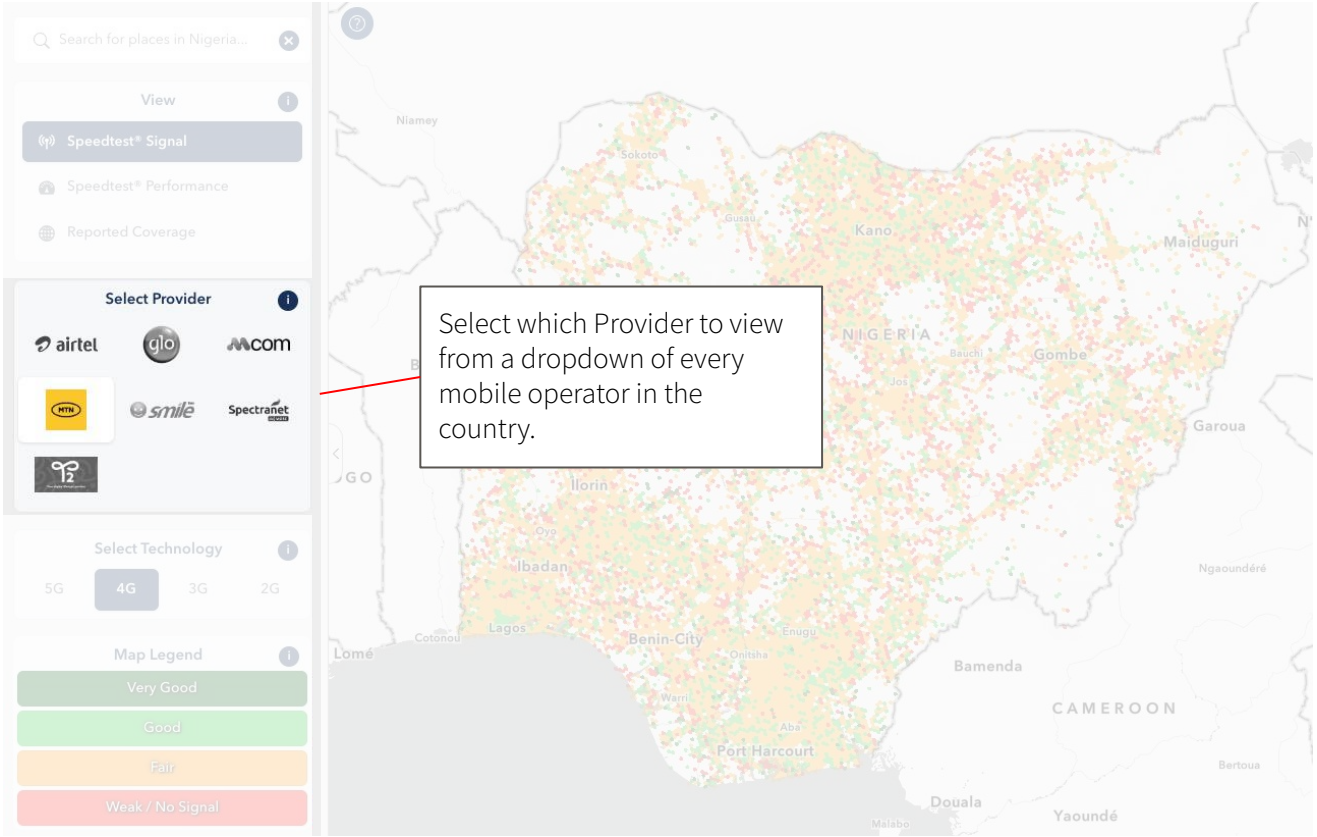
https://ncc.gov.ng/coverage-map

NCC Public Map – Data View Selection



https://ncc.gov.ng/coverage-map

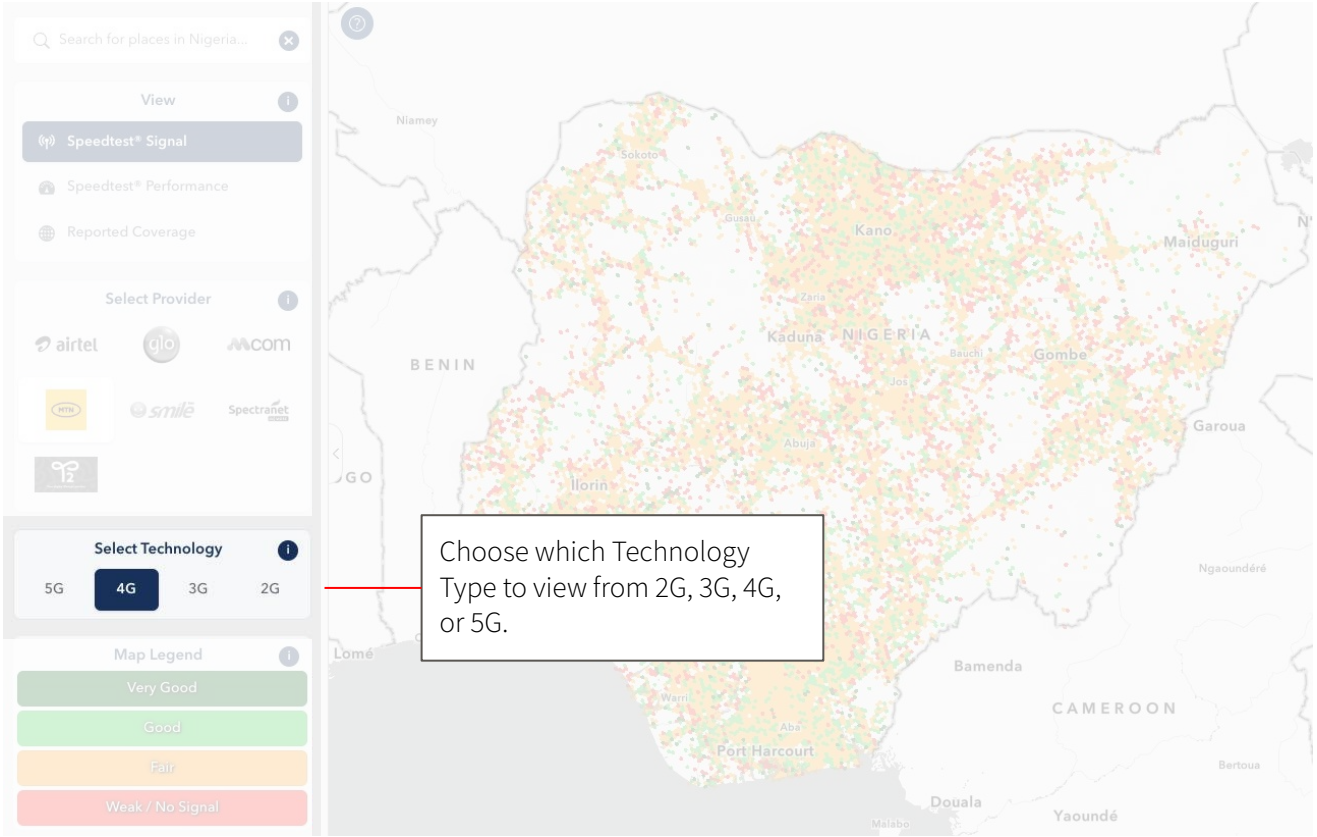
NCC Public Map – Provider Selection



Select which Provider to view from a dropdown of every mobile operator in the country.

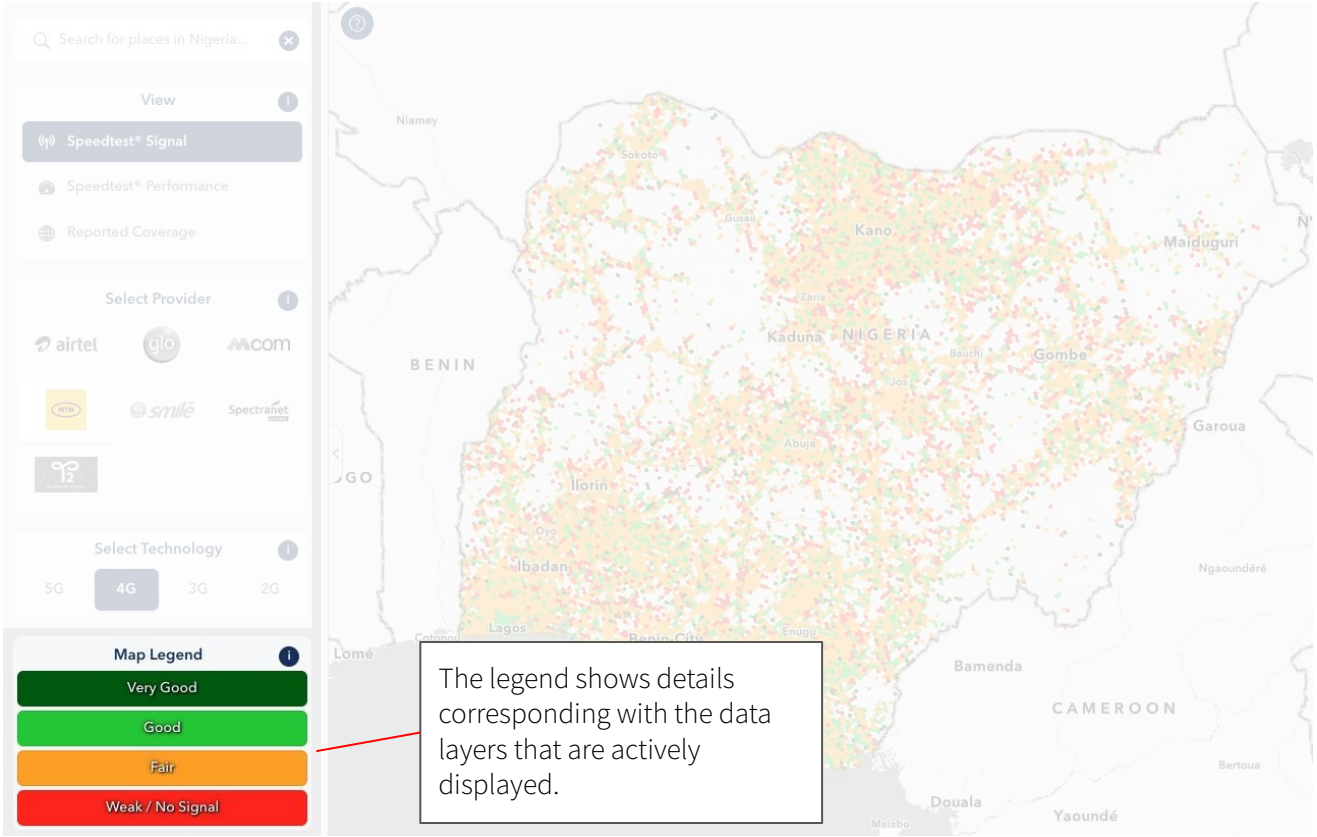
https://ncc.gov.ng/coverage-map

NCC Public Map – Technology Selection



https://ncc.gov.ng/coverage-map

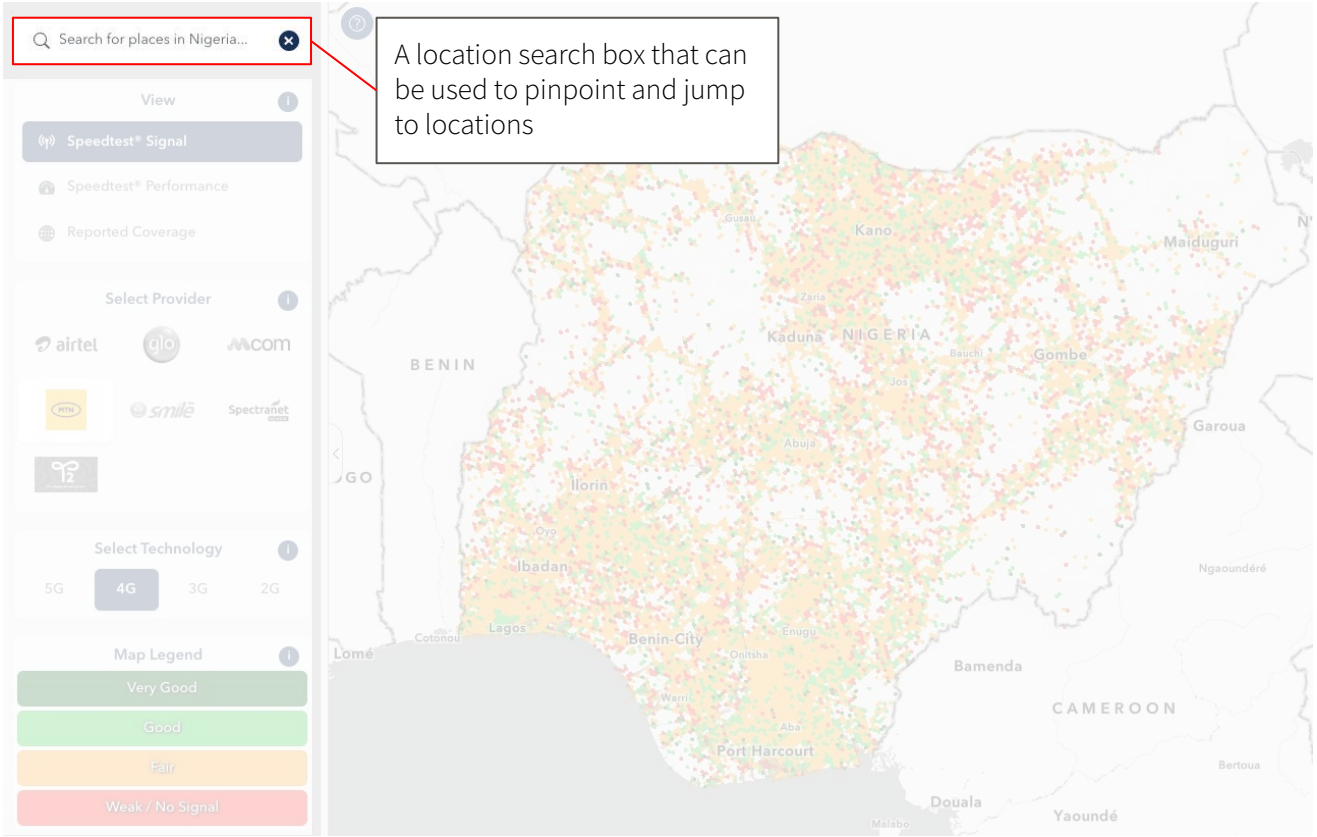
NCC Public Map – User-Friendly Performance Tiers



The legend shows details corresponding with the data layers that are actively displayed.

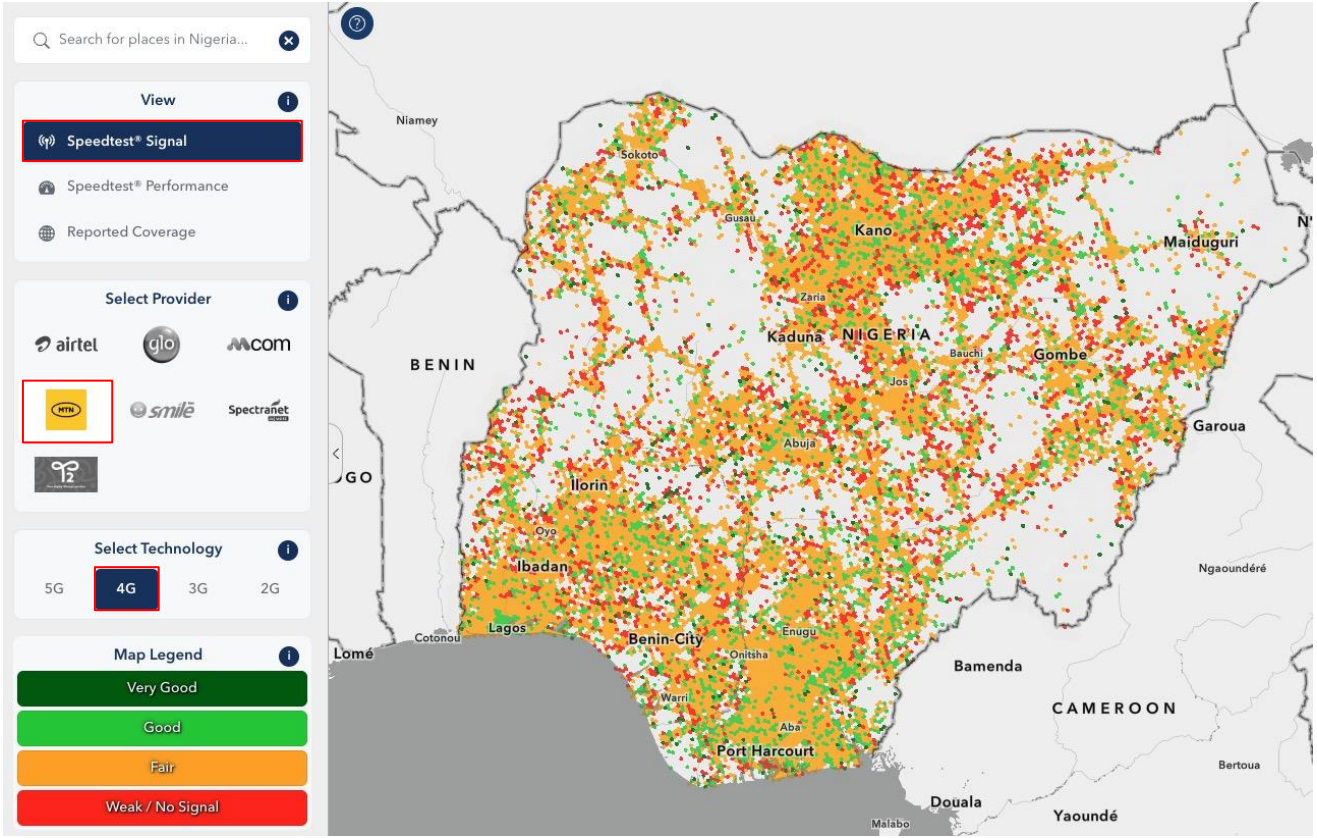
https://ncc.gov.ng/coverage-map

NCC Public Map – Location Search Box



https://ncc.gov.ng/coverage-map

NCC Public Map – Crowdsourced-based Network Coverage



https://ncc.gov.ng/coverage-map

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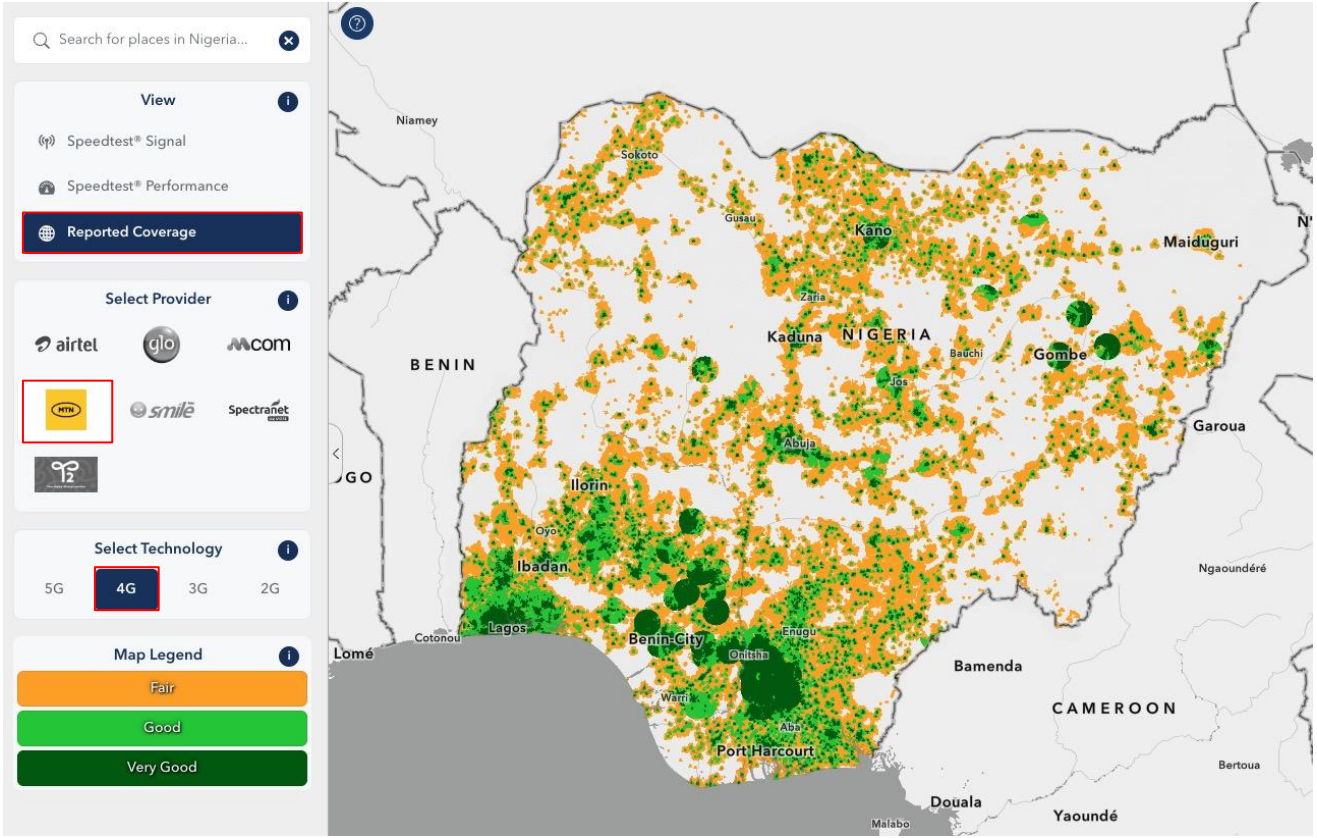
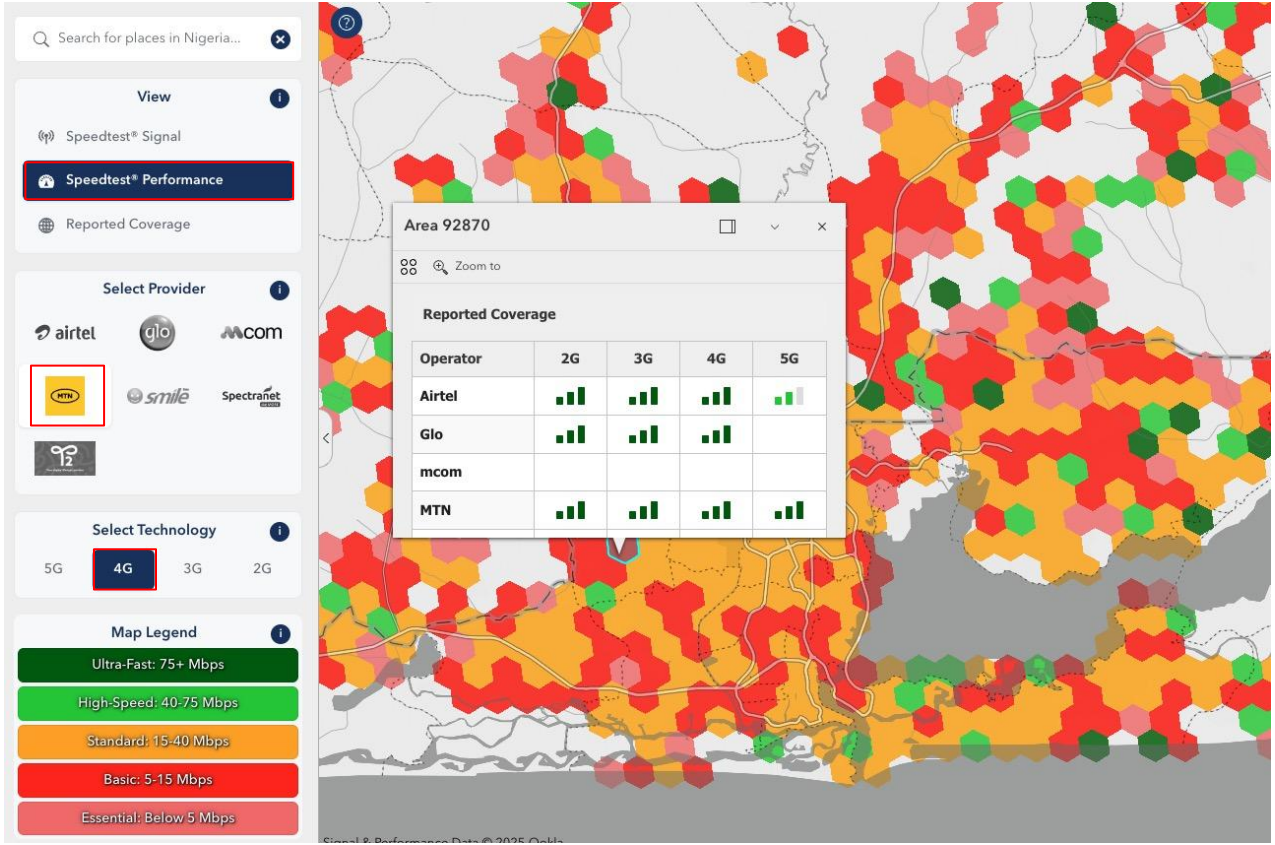
NCC Public Map – Operator-reported Network Coverage



https://ncc.gov.ng/coverage-map

NCC Public Map - Activity-Based Visualization



https://ncc.gov.ng/coverage-map

Lessons Learned & Impact

Lessons Learned & Impact

Essential Hybrid Models

Merging crowdsourced reality with operator baseline data yields the highest accuracy for diverse geographies.

Translation Drives Adoption

Technical data (Mbps) must be translated into consumer-friendly, activity-based formats to be truly useful.

Continuous Data Ingestion

Network landscapes change rapidly; continuous updates are required to maintain public trust.

Regulator-Led Innovation

A central authority championing transparency creates a market dynamic that incentivizes organic quality improvements.

Public Industry Performance Reports

https://ncc.gov.ng/market-data-reports/industry-performance-reports

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Press Coverage

NCC, Ookla launch coverage map, link poor network to urban congestion

By **Udeme Bassey** - October 20, 2025 40 0

NCC, Ookla launch national coverage map to boost transparency, data-driven telecom regulation

Folake Balogun - October 20, 2025

Nigerian Communications Commission (NCC)

NCC, Ookla launch coverage map, link poor network to urban congestion

By **Udeme Bassey** - October 20, 2025 155 0

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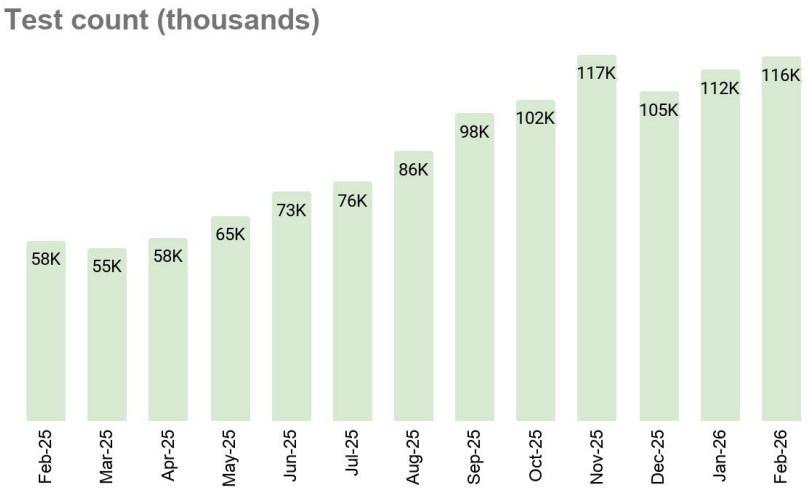
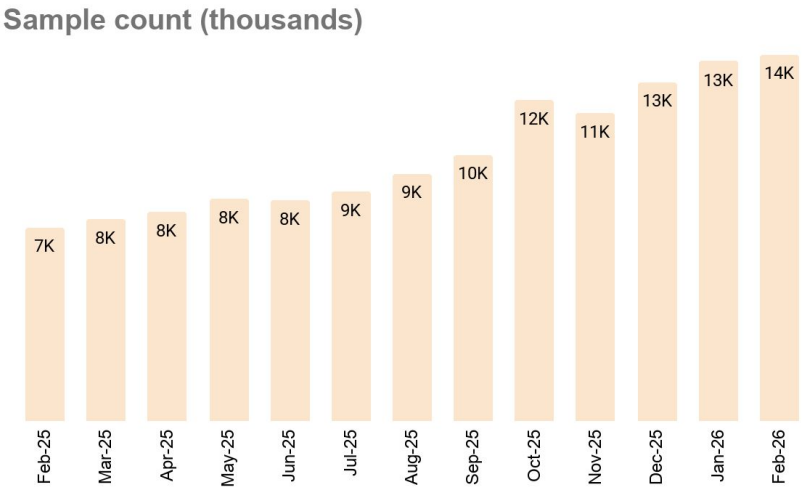
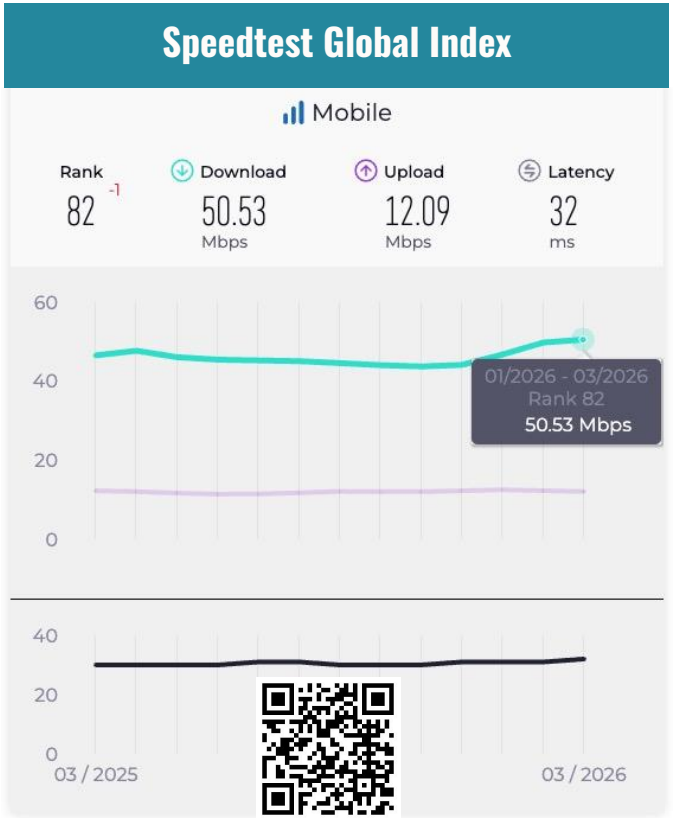
Growing Number of Speedtest Users in Nigeria

Since September 2025, the number of monthly tests increased by **17%** and the number of samples by **40%**





Improvement in Speedtest Global Index Ranking...



- Industry standard by global regulatory bodies with **15,000+ test servers**
- Ranks **180+ countries** based on mobile and fixed performance
- Indicator of **national technological advancement** and economic competitiveness
- **Measure RoI** on a macro-level
- Strengthen **preparedness for future demand**

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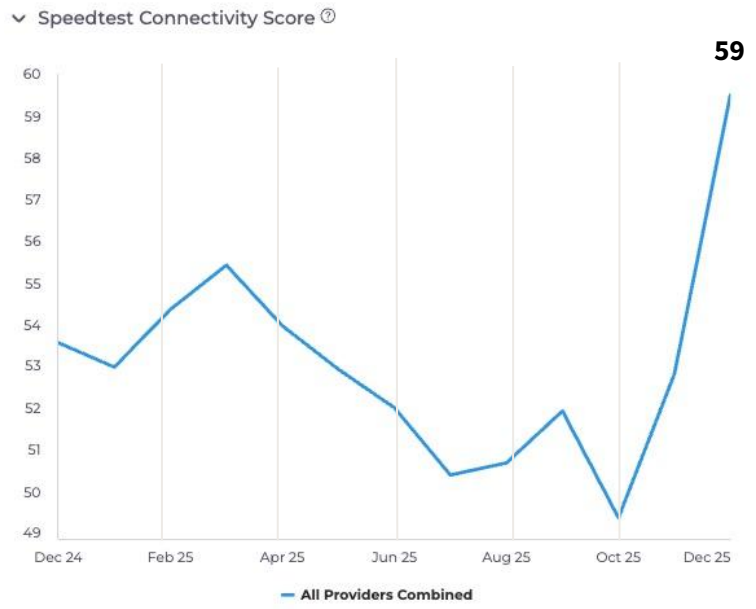
… and also Positive Quality of Experience Trends

Speedtest Connectivity Score



Speed Score

Video Streaming Score

Web Browsing Score

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Thank You

Do you have any questions?

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