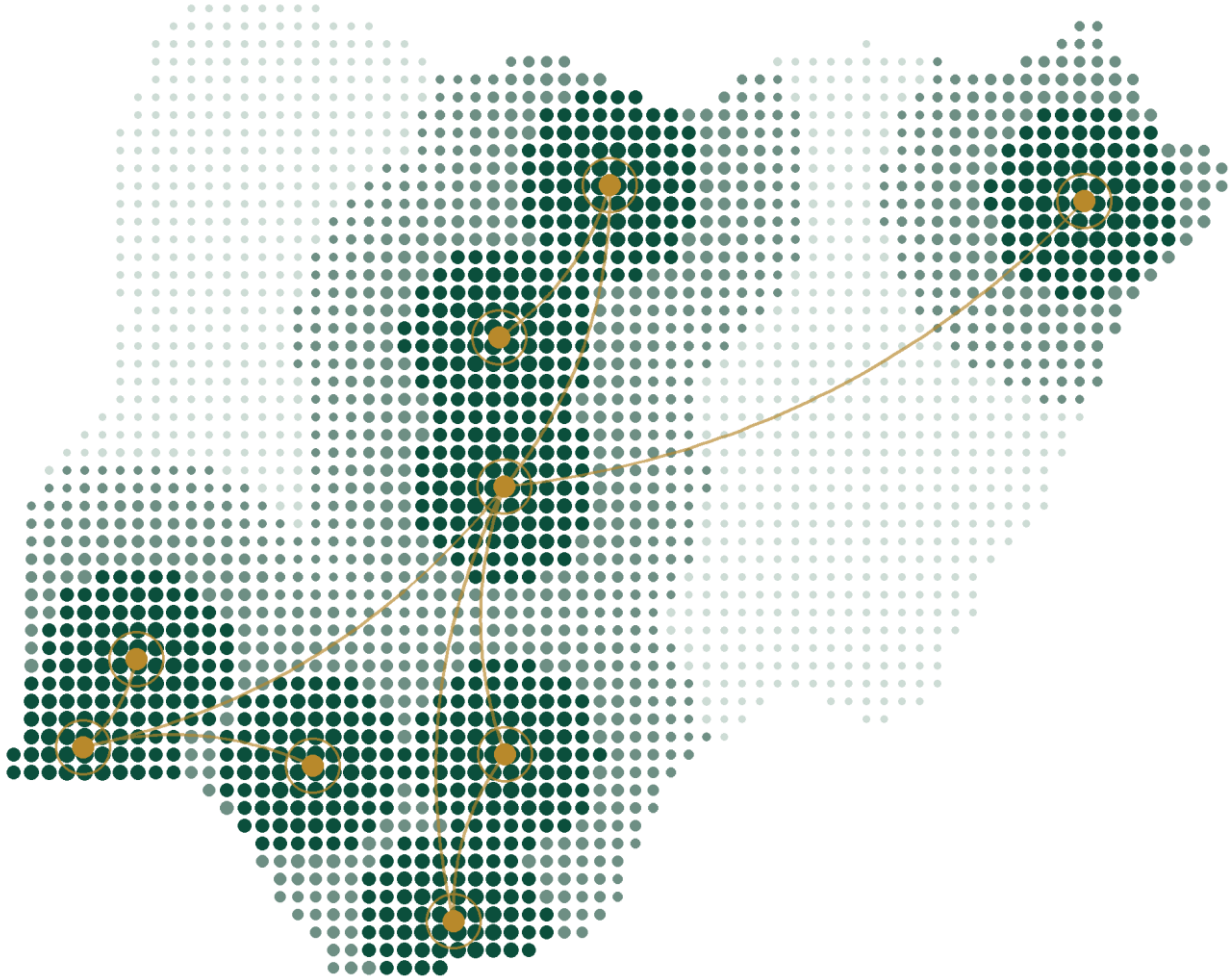
Nigerian Communications Commission
Network Improvement Programme



Battery Consumption & Thermal Status Analysis

Q3 2026 Public Report | Data: January 2025 – August 2026

02

CONTENTS

Your phone's battery and temperature can shape your mobile experience alongside the network itself.

What this report covers

03 Key findings at a glance

04 How much worse performance is in hotspots

05 The numbers behind the gaps

06 Where the hotspots are

07 How we measure device stress

08 What it means

Source: Speedtest® by Ookla® crowdsourced data, analysed by Ookla Advanced Analytics Services for the NCC.

03

AT A GLANCE

Device-level signals add a view of user experience that network measurements alone can miss.

Areas where devices drain faster or run hotter have slower, laggier connections.

3,048

geographic zones analysed across Nigeria

204

zones flagged for high day-time battery drain

305

zones flagged for high device temperature

23

zones flagged by both indicators

Source: Speedtest® by Ookla® crowdsourced data, analysed by Ookla Advanced Analytics Services for the NCC.

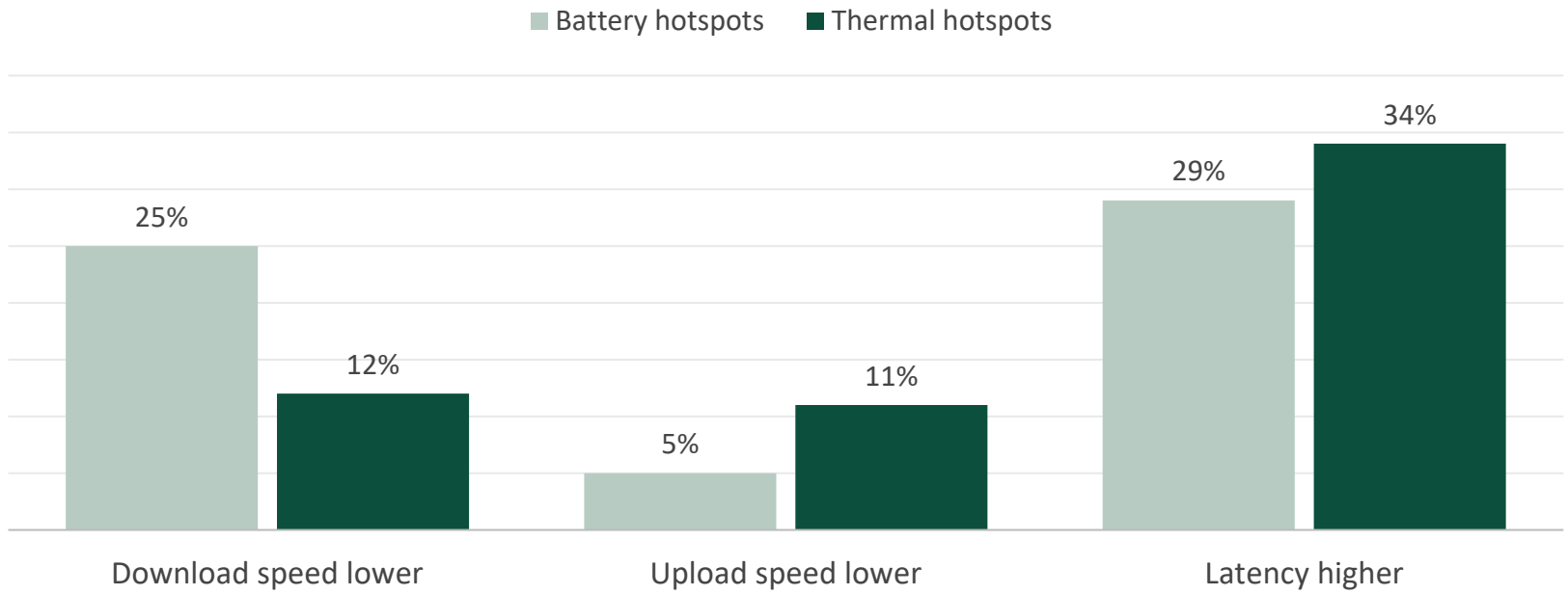
04

PERFORMANCE GAPS

Battery hotspots show the bigger download gap. Thermal hotspots show bigger upload and latency gaps.

Latency is consistently higher in both types of hotspot

How much worse performance is in flagged zones than in other zones (%)



- **Latency** was higher in both types of hotspot in all 20 months analysed.

Source: Speedtest® by Ookla® crowdsourced data, analysed by Ookla Advanced Analytics Services for the NCC.

05

DETAIL

A battery hotspot loses about 4.75 Mbps of download speed; a thermal hotspot about 2.34 Mbps.

The numbers behind the gaps

Metric	Other zones	Battery hotspots	Other zones	Thermal hotspots
Download (Mbps)	18.76	14.01	18.76	16.42
Upload (Mbps)	9.40	8.90	9.41	8.37
Latency (ms)	31.5	40.6	31.4	42.1

Each hotspot group is compared with all remaining zones, so the baselines differ slightly.

Source: Speedtest® by Ookla® crowdsourced data, analysed by Ookla Advanced Analytics Services for the NCC.

06

WHERE THE HOTSPOTS ARE

Climate may play a part, but no temperature data was available to confirm the cause.

Hotspots are more common in the north

- **Northern concentration.** About 13–16% of zones at latitude 10°N or higher are flagged, versus about 9% elsewhere.
- **North-east heat.** Roughly one in three zones in the north-east is a high-thermal zone.
- **Limited overlap.** Only 23 zones are flagged by both indicators, so the two signals mostly point to different places.

Source: Speedtest® by Ookla® crowdsourced data, analysed by Ookla Advanced Analytics Services for the NCC.

07

METHODOLOGY

We look at device conditions recorded during speed tests and compare them with network performance in the same area.

How we measure device stress

1 Battery indicator

Average battery level during the day (12:00–16:00) compared with the night (00:00–04:00).

2 Thermal indicator

The average device heat state recorded during speed tests.

3 Flag hotspots

The top 10% of zones on each indicator are compared with all other zones.

Zones get smaller where more tests are taken. Findings show associations, not proven causes; zone size and test density may also contribute.

Source: Speedtest® by Ookla® crowdsourced data, analysed by Ookla Advanced Analytics Services for the NCC.

08

WHAT IT MEANS

These indicators are a starting point for investigation, not a verdict on any network.

Device signals can help target network checks

- **For operators.** Review the 23 dual-flagged zones first, then investigate thermal-only (282) and battery-only (181) zones separately.
- **For the regulator.** Device-level indicators can complement traditional network measurements and help prioritise quality verification.
- **For consumers.** Once causes are confirmed, findings can inform guidance on conditions that affect device performance.

Source: Speedtest® by Ookla® crowdsourced data, analysed by Ookla Advanced Analytics Services for the NCC.

About this report

This summary is based on the NCC Advanced Analytics report “Battery consumption & thermal status analysis” (Q3 2026), prepared by Ookla Advanced Analytics Services under the Network Improvement Programme.

Results come from crowdsourced, user-initiated Speedtest® measurements (January 2025 – August 2026). They indicate typical user experience and are not a measure of total network capacity or coverage.

Areas, operators or devices with too few valid tests are excluded or flagged. Comparisons refer to the previous public report (Q1 2026).

Thank you