

Analyzing the experience and Device Preferences of Singapore Android users

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Agenda

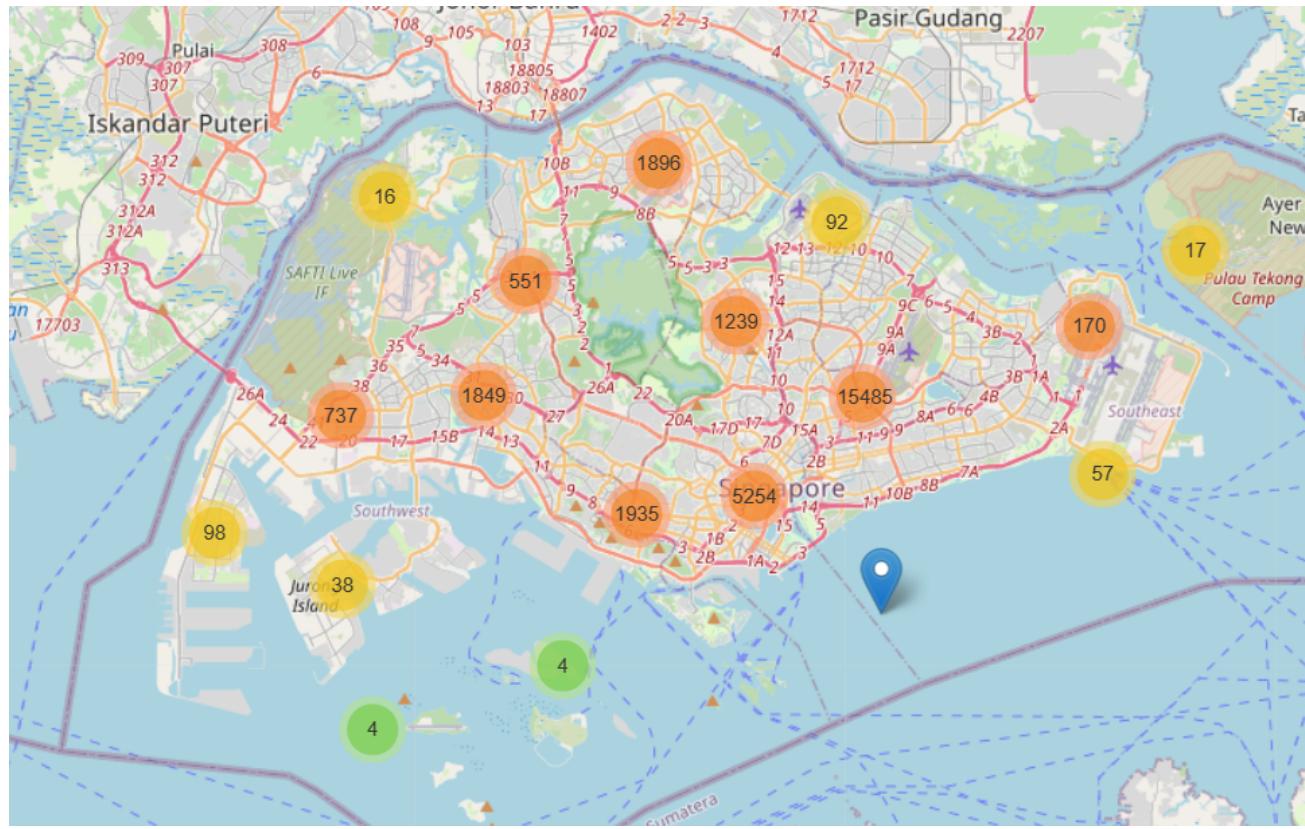
- Introduction
- Data Overview, Methodology & Key Insights
- Domestic Android User Experience
- Test Performance by Region & Network Operators Analysis
- Regional Performance Variability & Performance by Top Operators
- Connection Types & Top Devices among Singapore Domestic Users
- Device Analysis & Model Distribution by Operator
- Roaming in Singapore: Test Counts & Analysis by Region
- Roaming User Experience & Device Preferences of Roamers in Singapore
- Conclusion & Future Work

Introduction

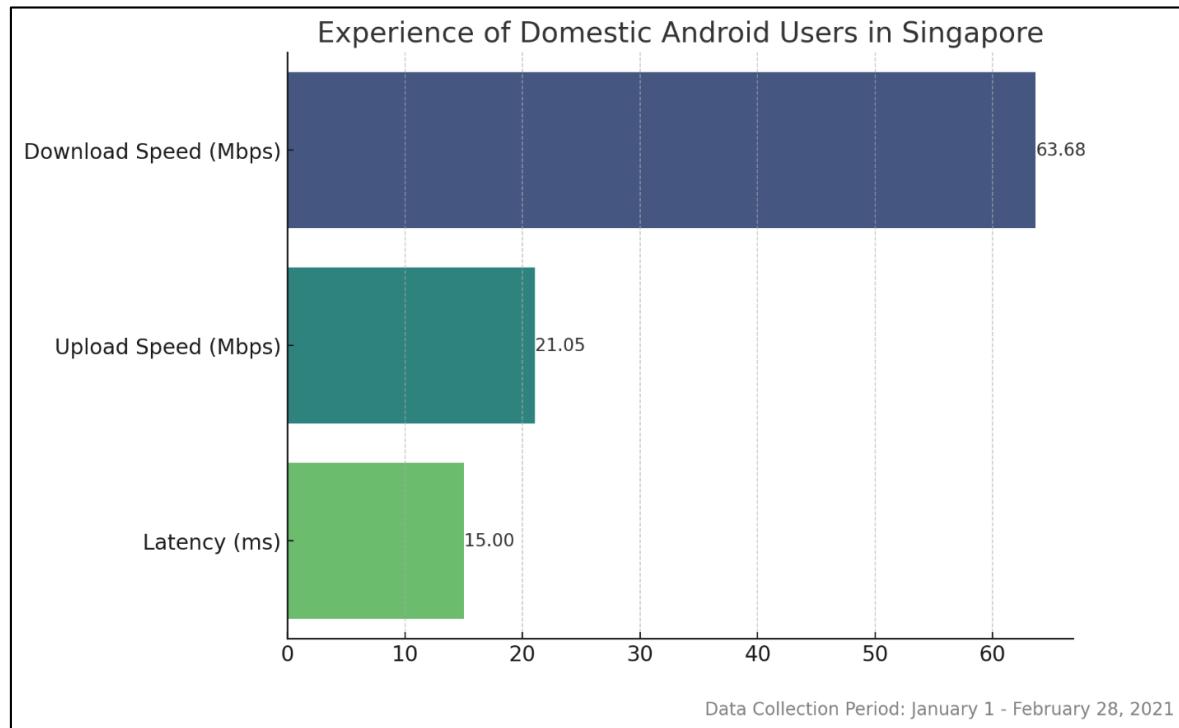
Data Overview & Methodology

- Network performance data for Android users in Singapore.
- Data Sourced via end-user tests.
- Data Collection Period: January 1 – Feb 28, 2021.

Users tested mostly in the Central and North-East Regions of Singapore

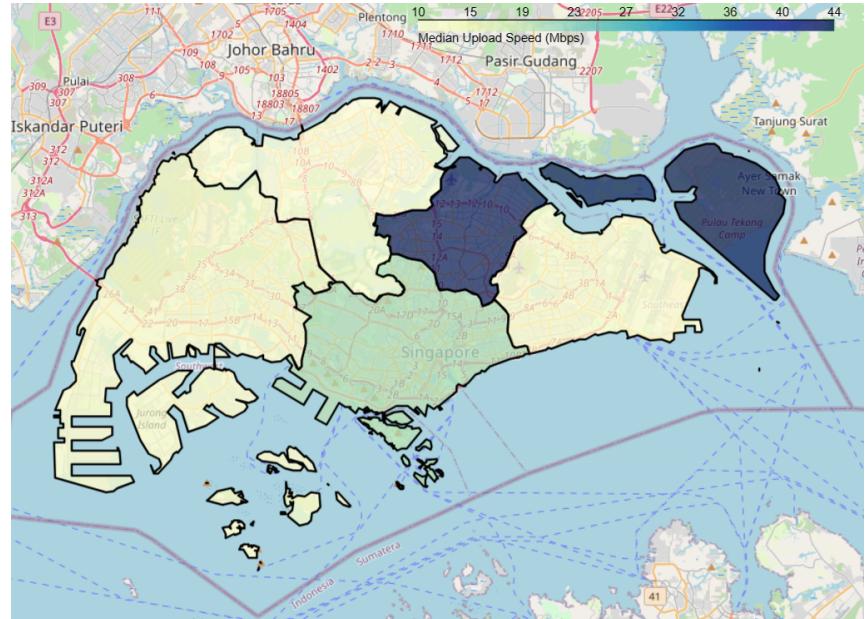
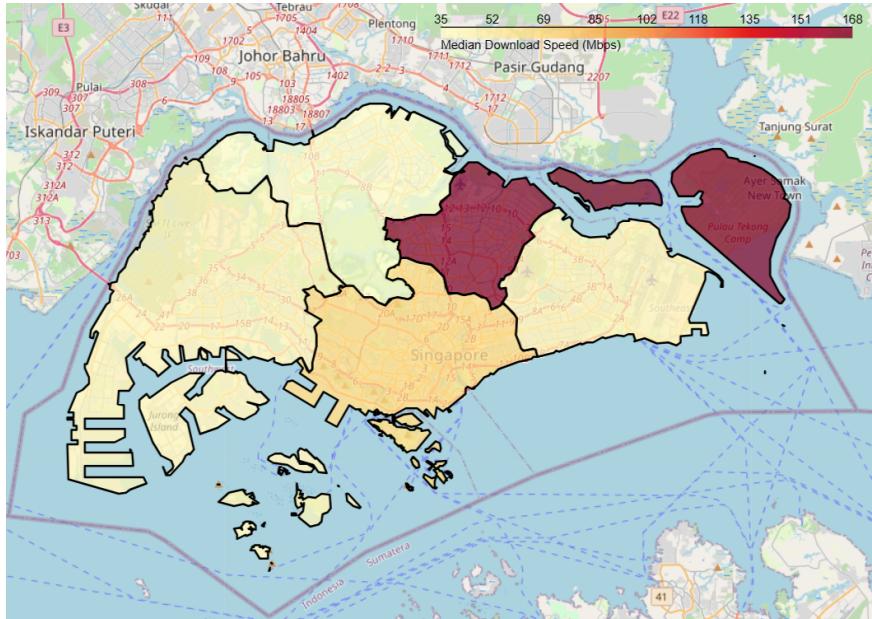


Overall Experience of Singapore users



- The typical everyday speeds and latency an Android device Domestic user experiences in Singapore.

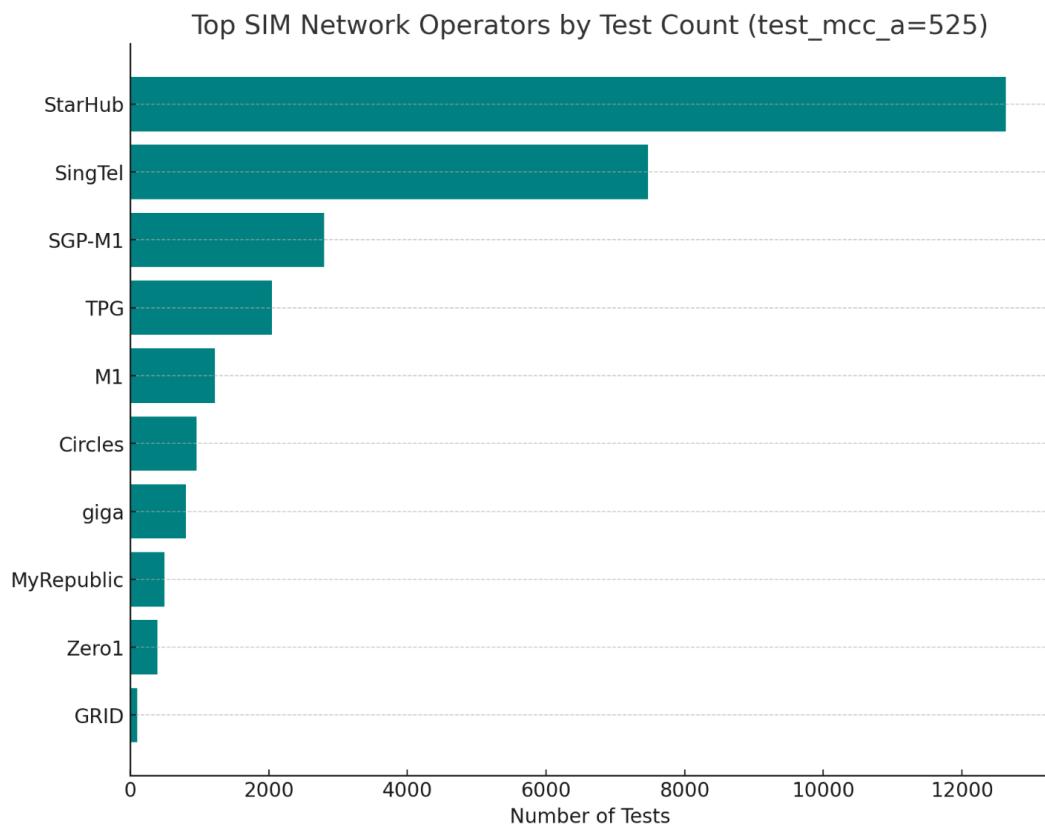
Download and Upload Speed Experience by Region



North-East Region test results stands out with significantly higher median download (167.7 Mbps) and upload (44.4 Mbps) speeds compared to other regions.

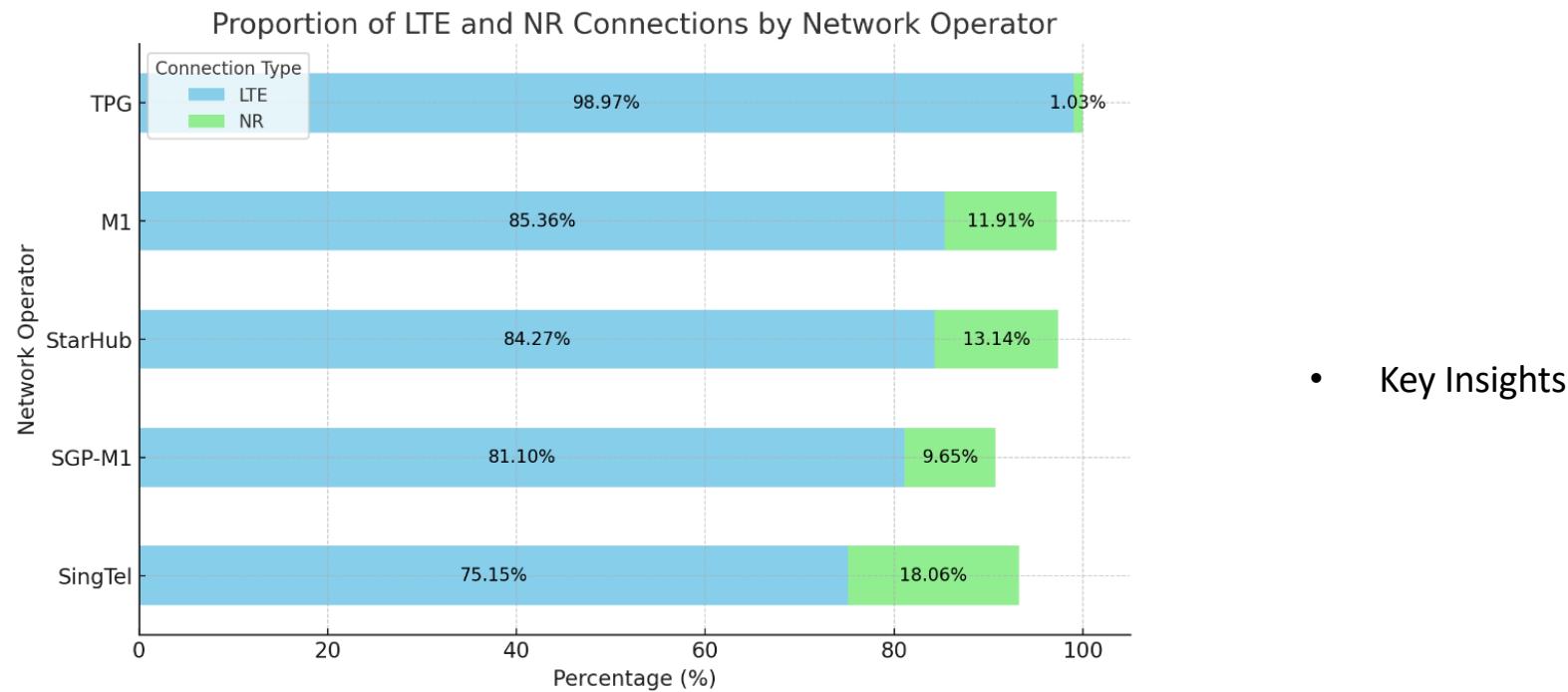
The Central Region shows a good download (64.592 Mbps) and upload (20.596 Mbps) speeds.

Test by Network Operator in Singapore



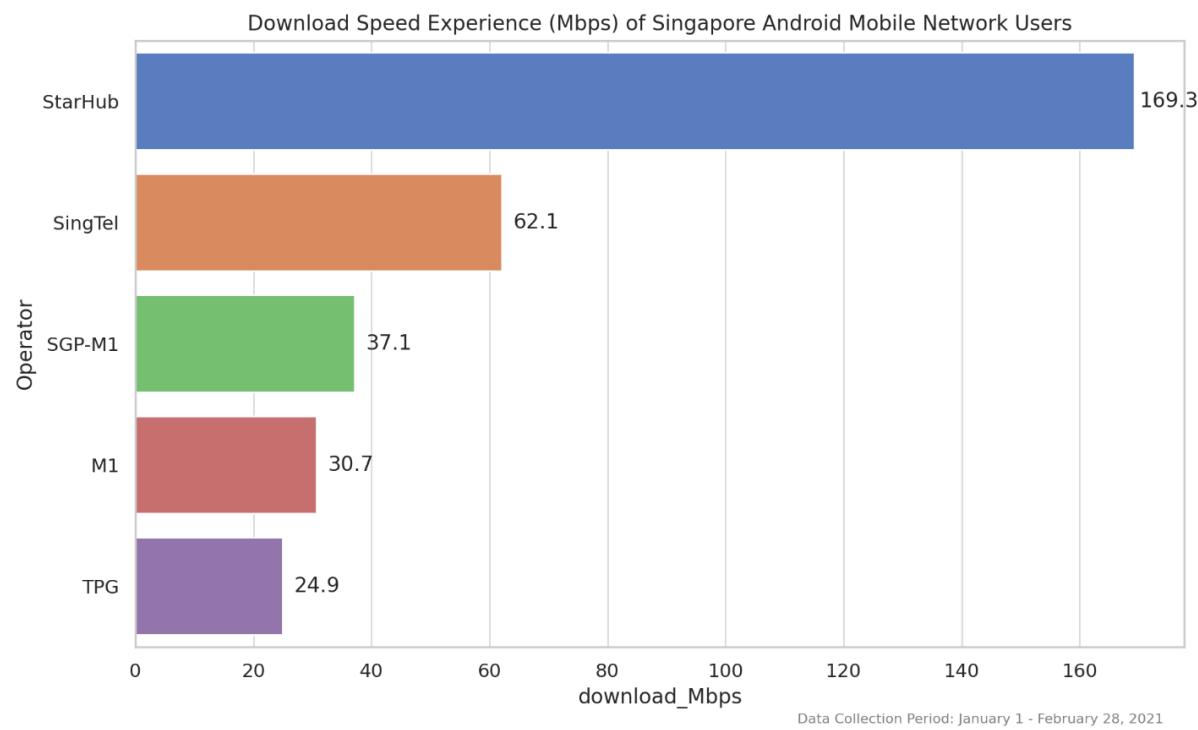
- Dominant Operators: StarHub leads significantly in terms of the number of tests conducted, followed by SingTel. This suggests that these two operators might be the most popular or widely used among users who conducted the tests.
- Market Share Indication: The high number of tests for StarHub and SingTel compared to other operators could indicate a larger market share or user base in Singapore for these providers, at least among the users who have conducted these tests.
- Variety of Operators: There is a diversity of operators in the market, as shown by the presence of several other operators like SGP-M1, TPG, M1, Circles, giga, MyRepublic, Zero1, and GRID. This diversity points to a competitive telecom market in Singapore

Singaporean mobile users rely on LTE for their mobile broadband needs

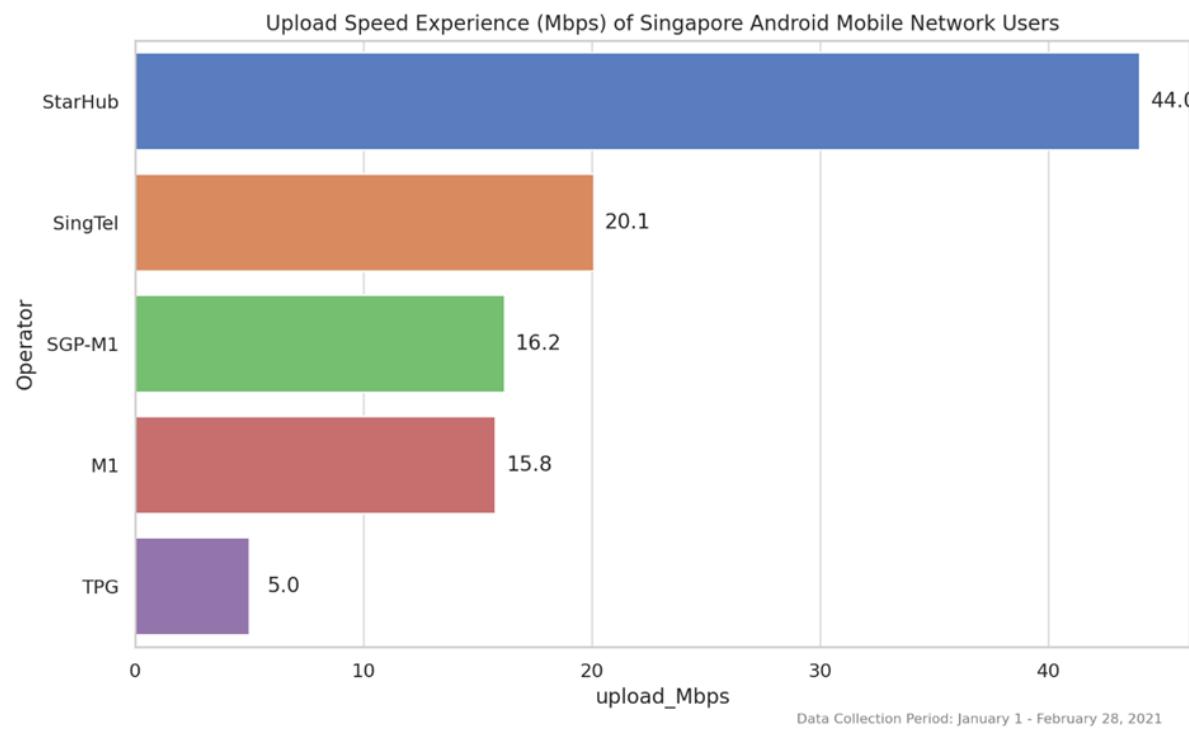


Data collection period: January 1 - February 28, 2021

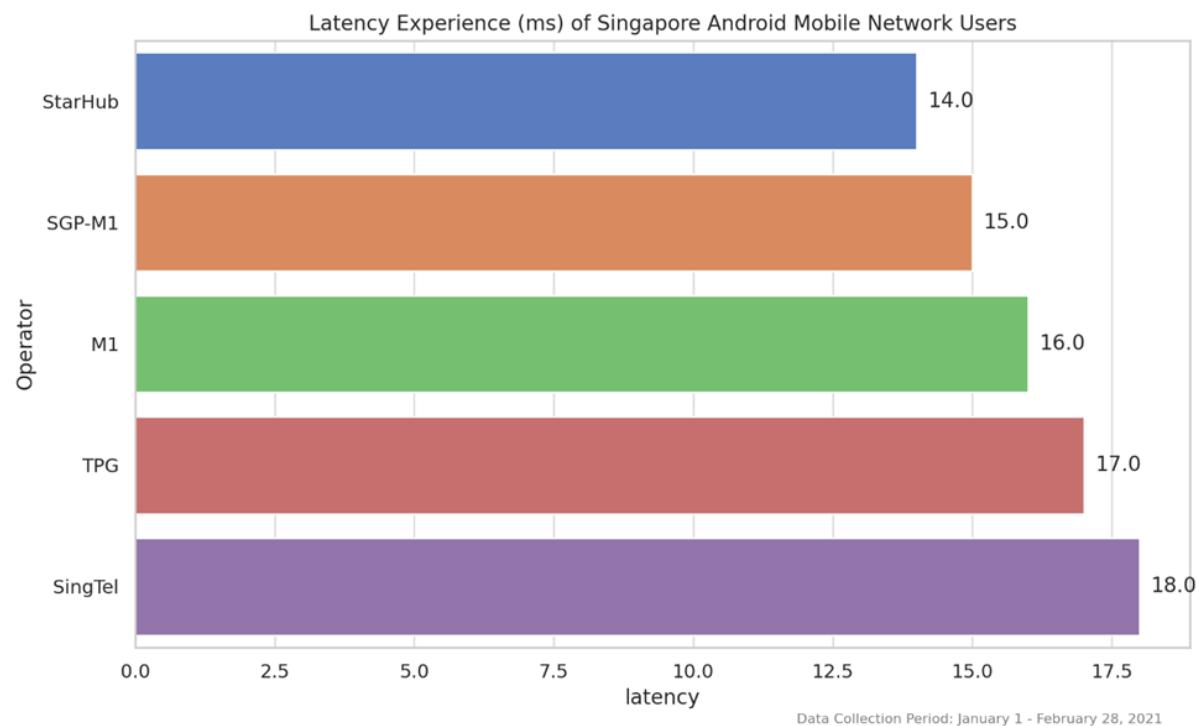
StarHub Users see the fastest Download speeds



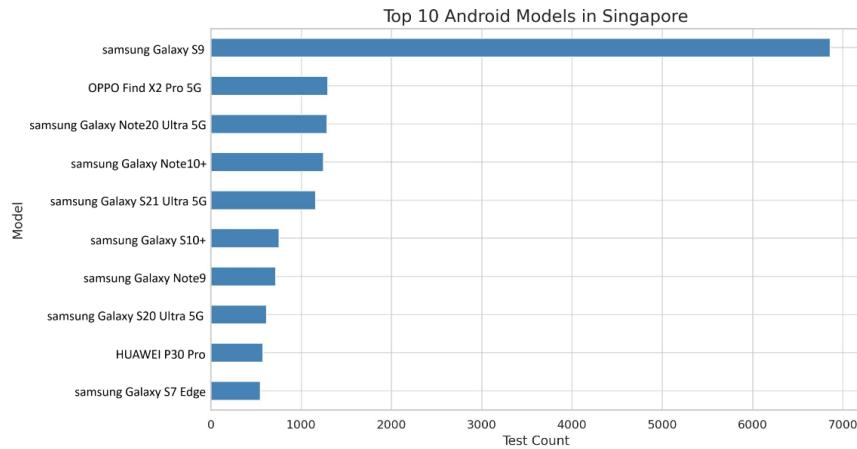
StarHub Users see the fastest Upload speeds



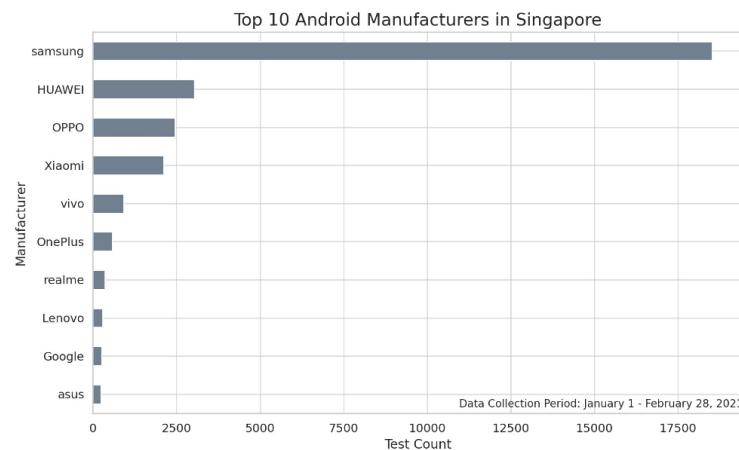
StarHub Users see the lowest latency



Device Analysis - Insights on the top 10 device models and manufacturers

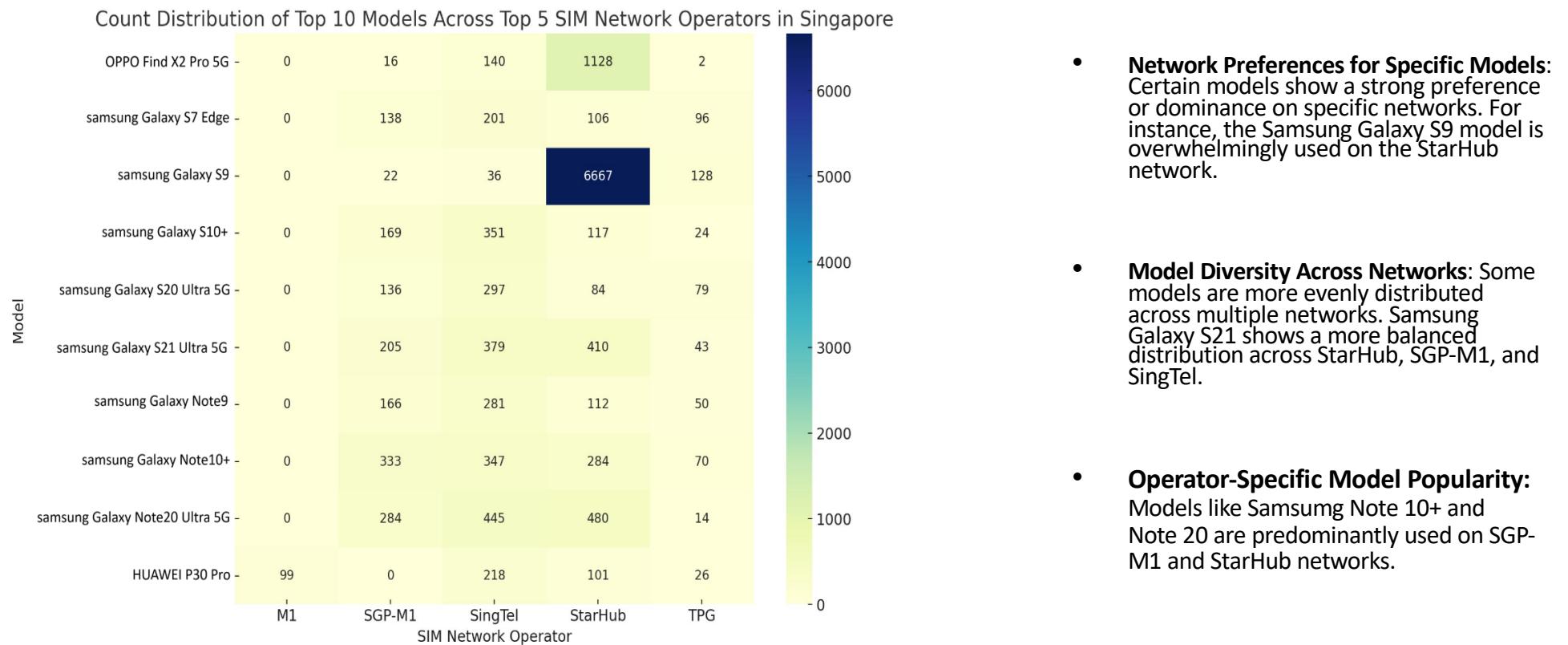


- **Brand Dominance:** Samsung dominates the market significantly among domestic users in Singapore. This is followed by other brands like HUAWEI, OPPO, and Xiaomi.

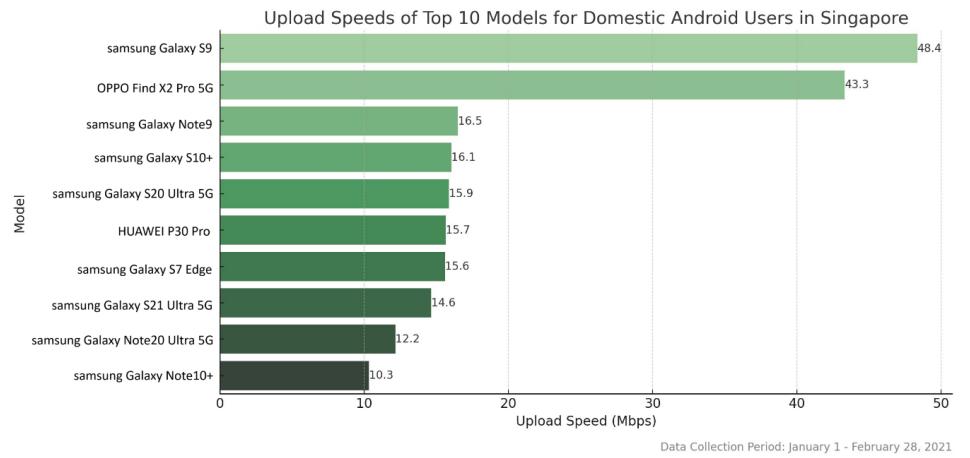
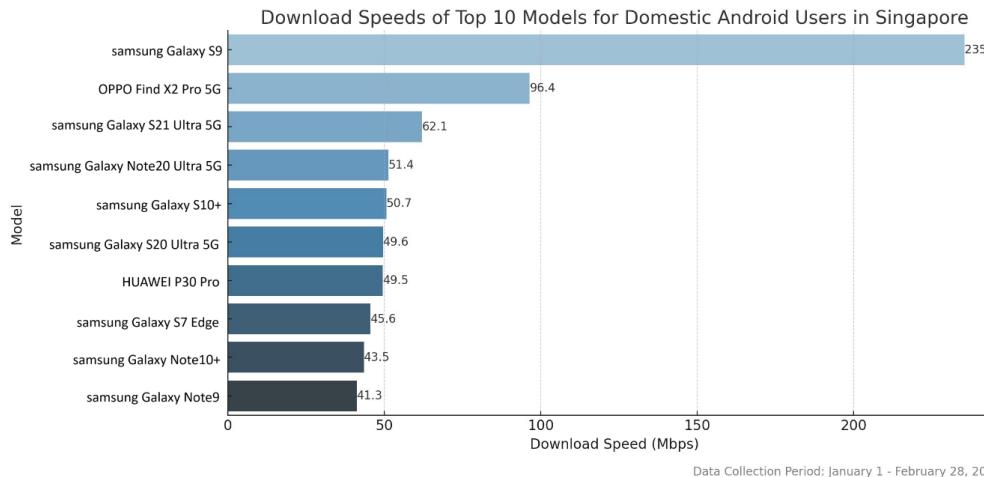


- **Model Preference:** Specific models, particularly from Samsung, are highly prevalent, especially the Samsung Galaxy S9.

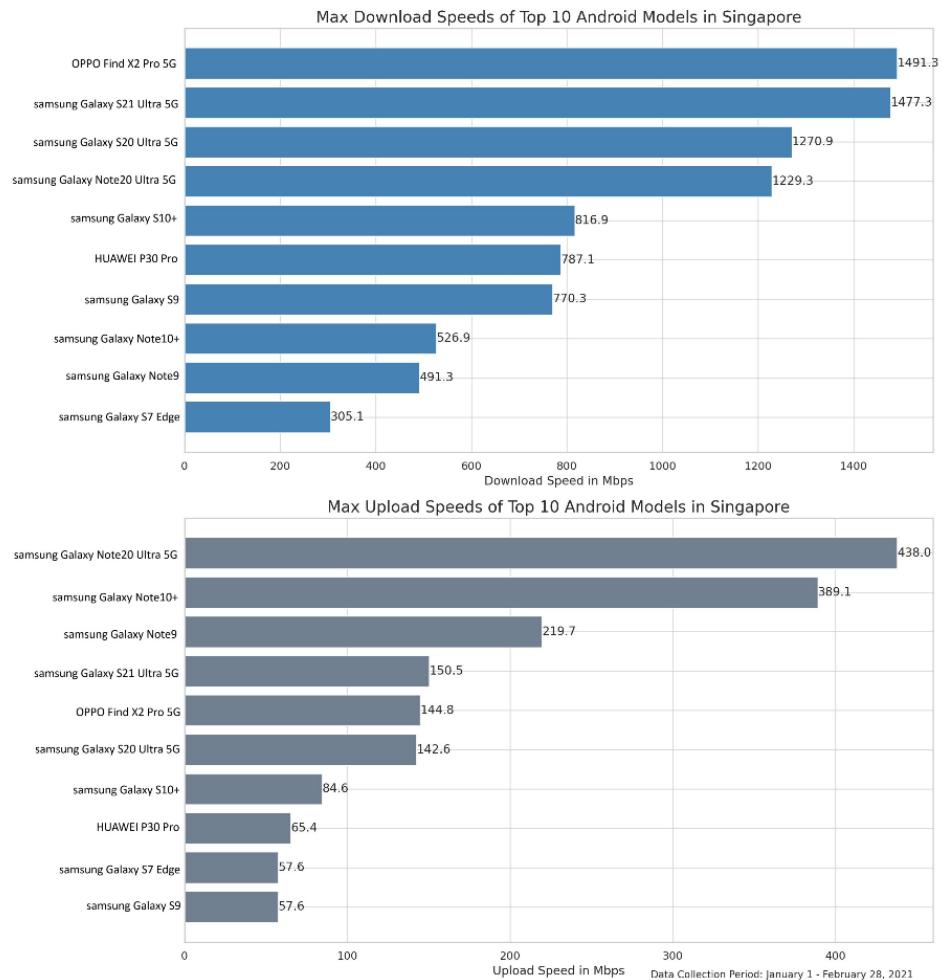
The top model devices distributed among the top 5 network operator



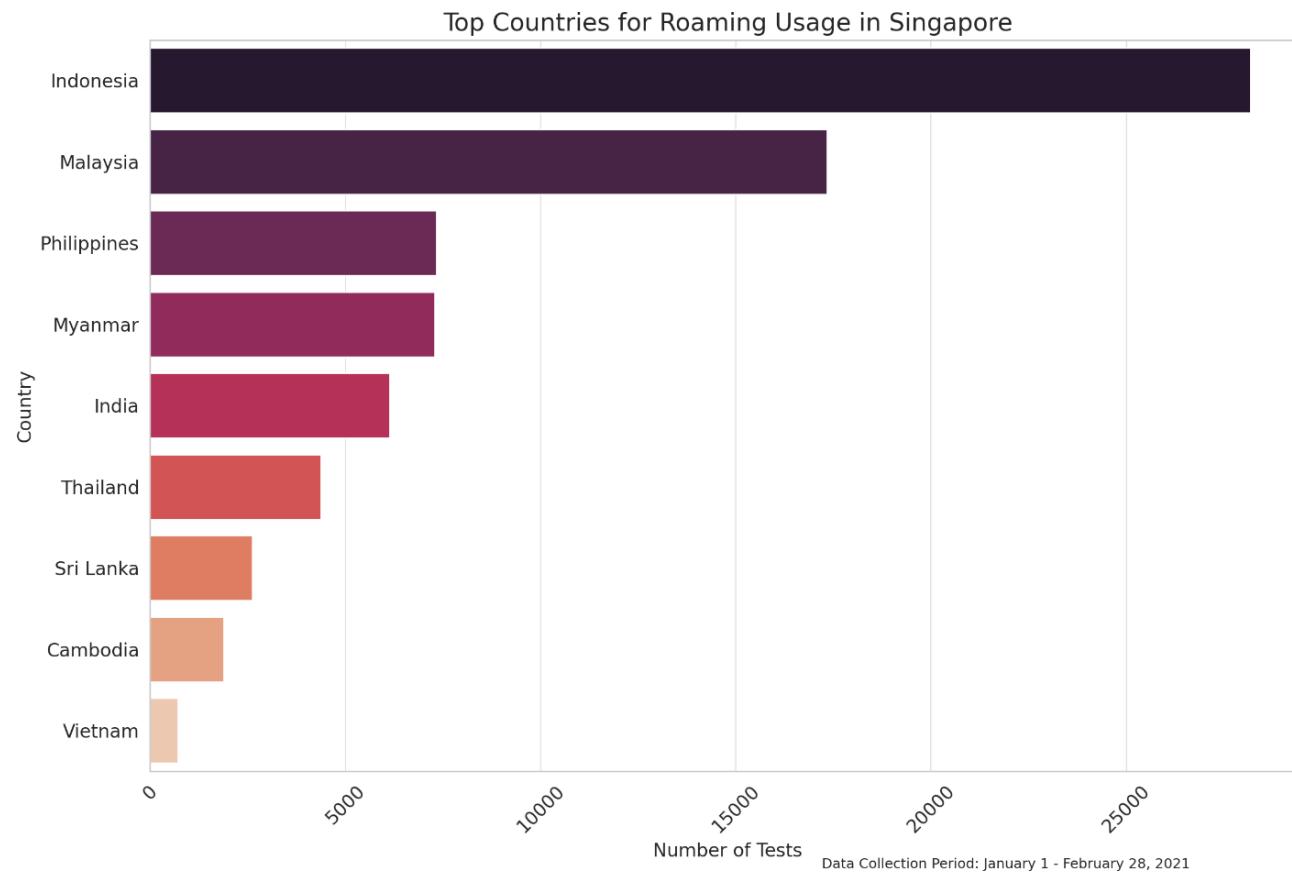
Device-Specific Performance Analysis



Maximum Speeds of Top Devices

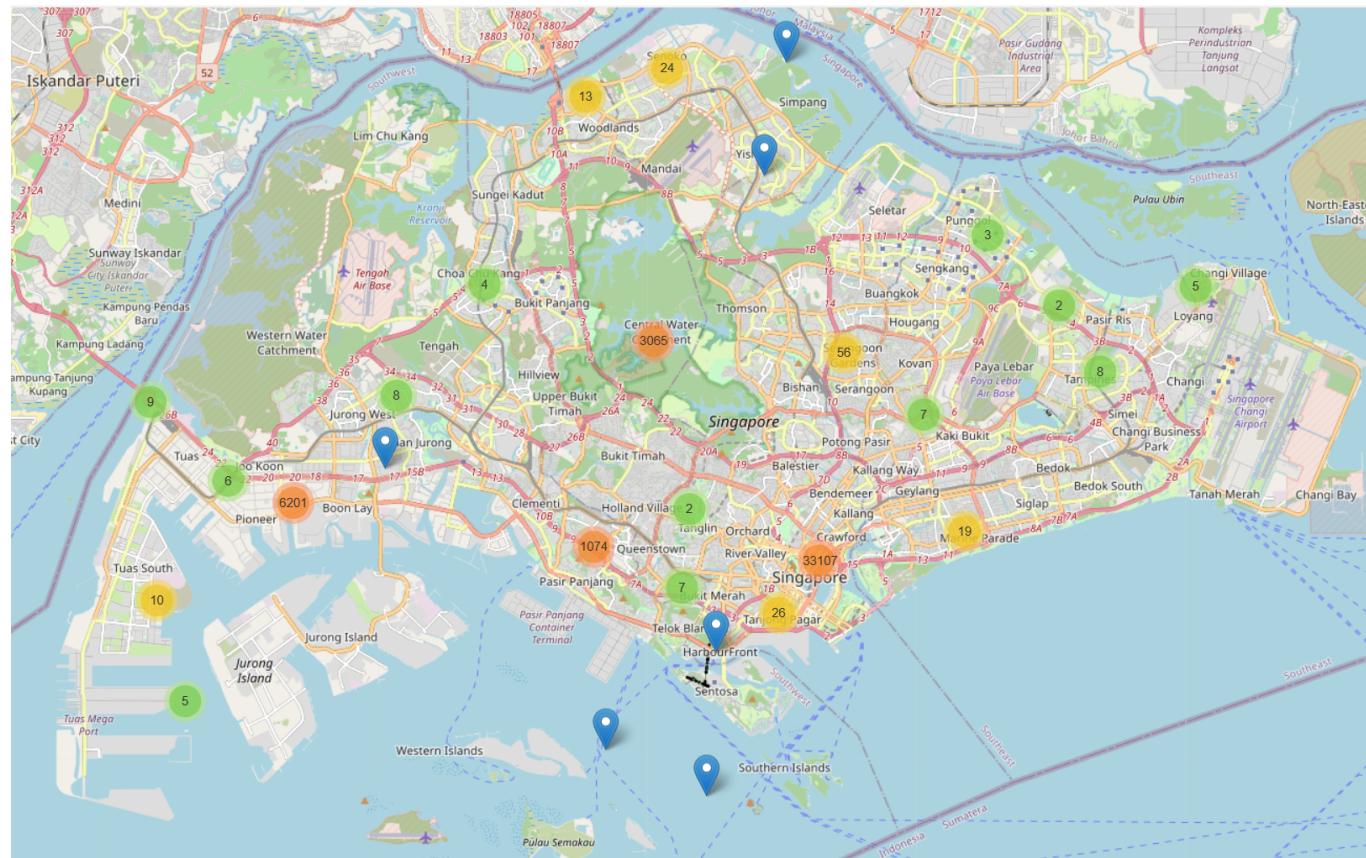


Analyzing the roaming experience of Roaming users in Singapore



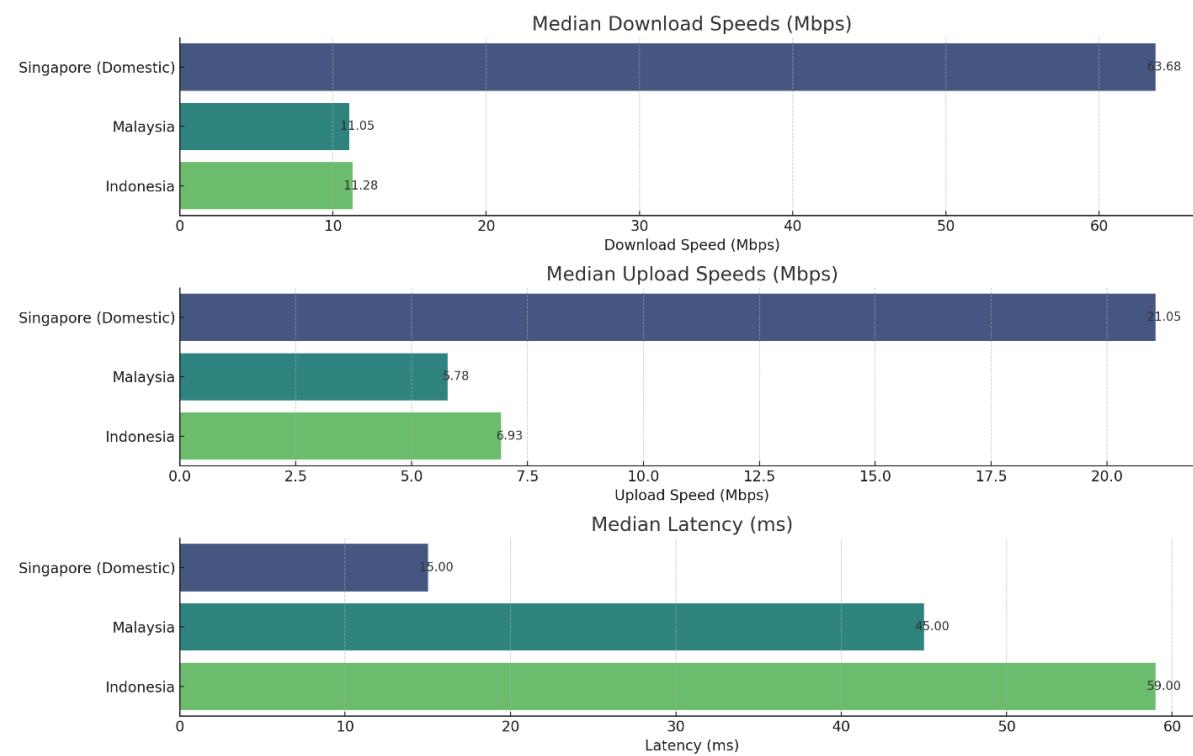
- Frequency of network tests conducted in Singapore with international SIM cards
- Indonesia and Malaysia top Roamers in Singapore

Malaysia and Indonesia users tested mostly in the Central Region while Roaming in Singapore



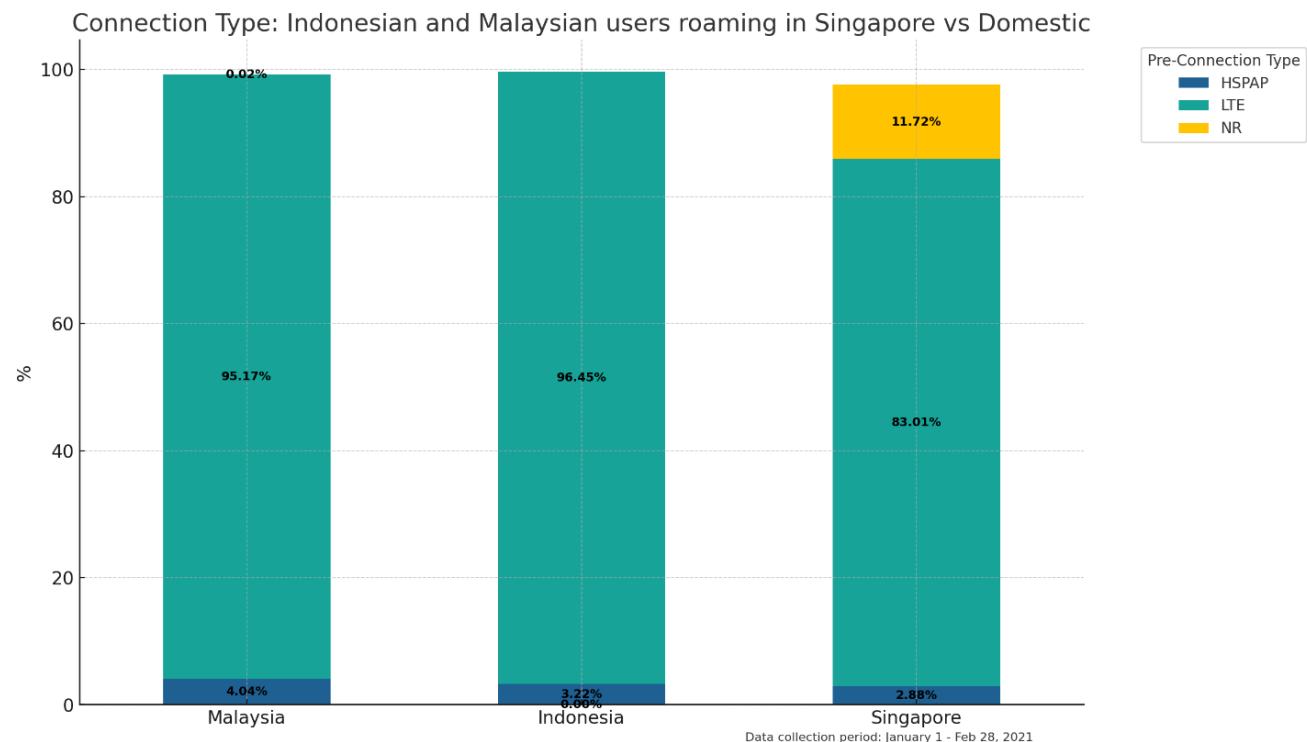
Malaysia and Indonesia users experience lower speeds and increased latency than domestic users when Roaming in Singapore

Experience of Roaming Users from Indonesia and Malaysia in Singapore



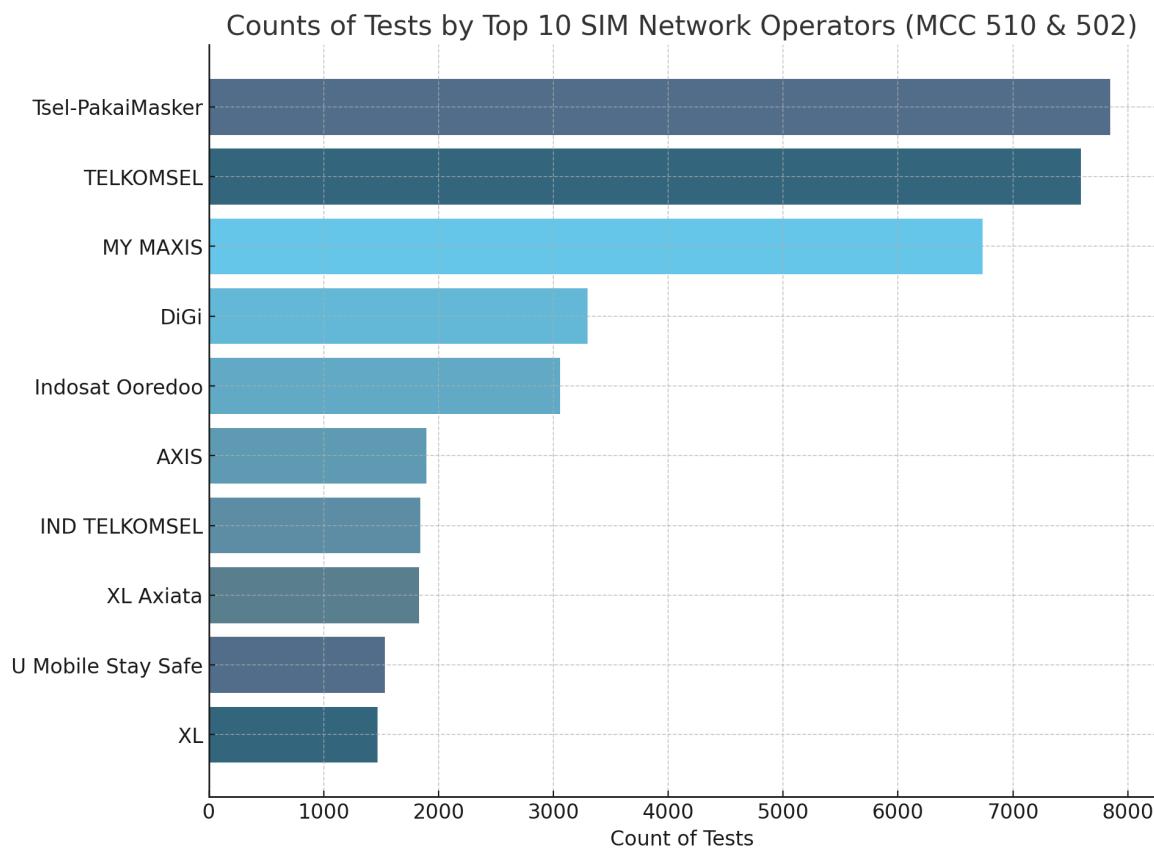
Data Collection Period: January 1 - February 28, 2021

Malaysia and Indonesia users rely on LTE while Roaming in Singapore

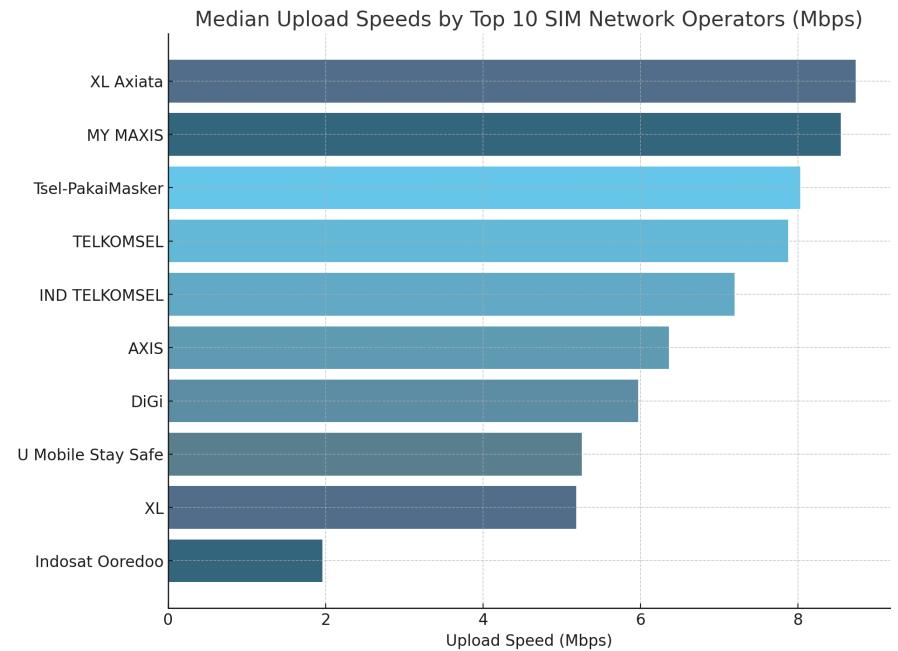
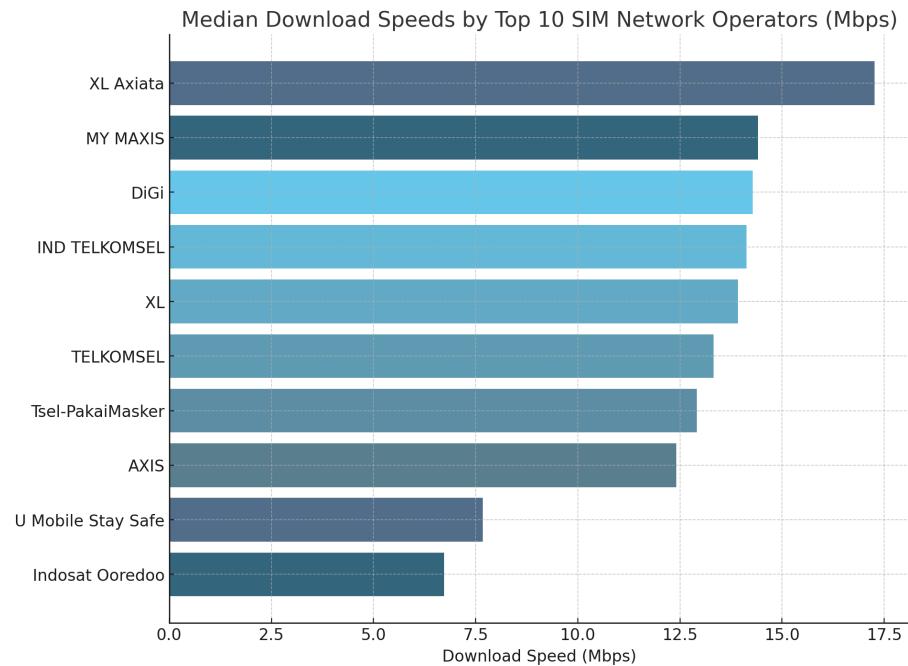


- No NR connections from roamer users vs 11.7% NR connection by domestic Singapore users.

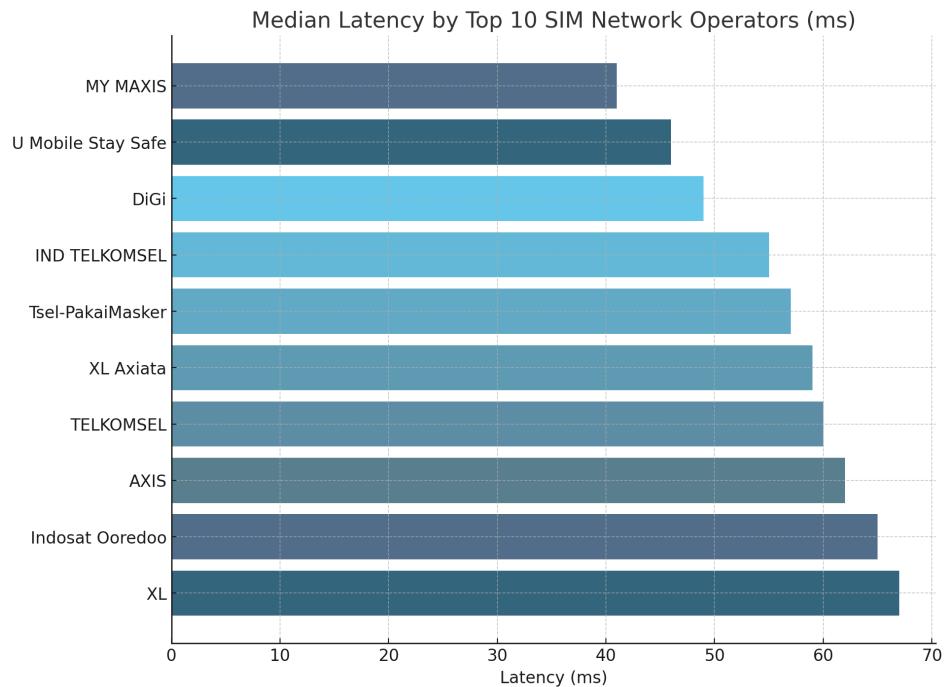
Top Roaming Network Operators from Indonesia and Malaysia roaming in Singapore



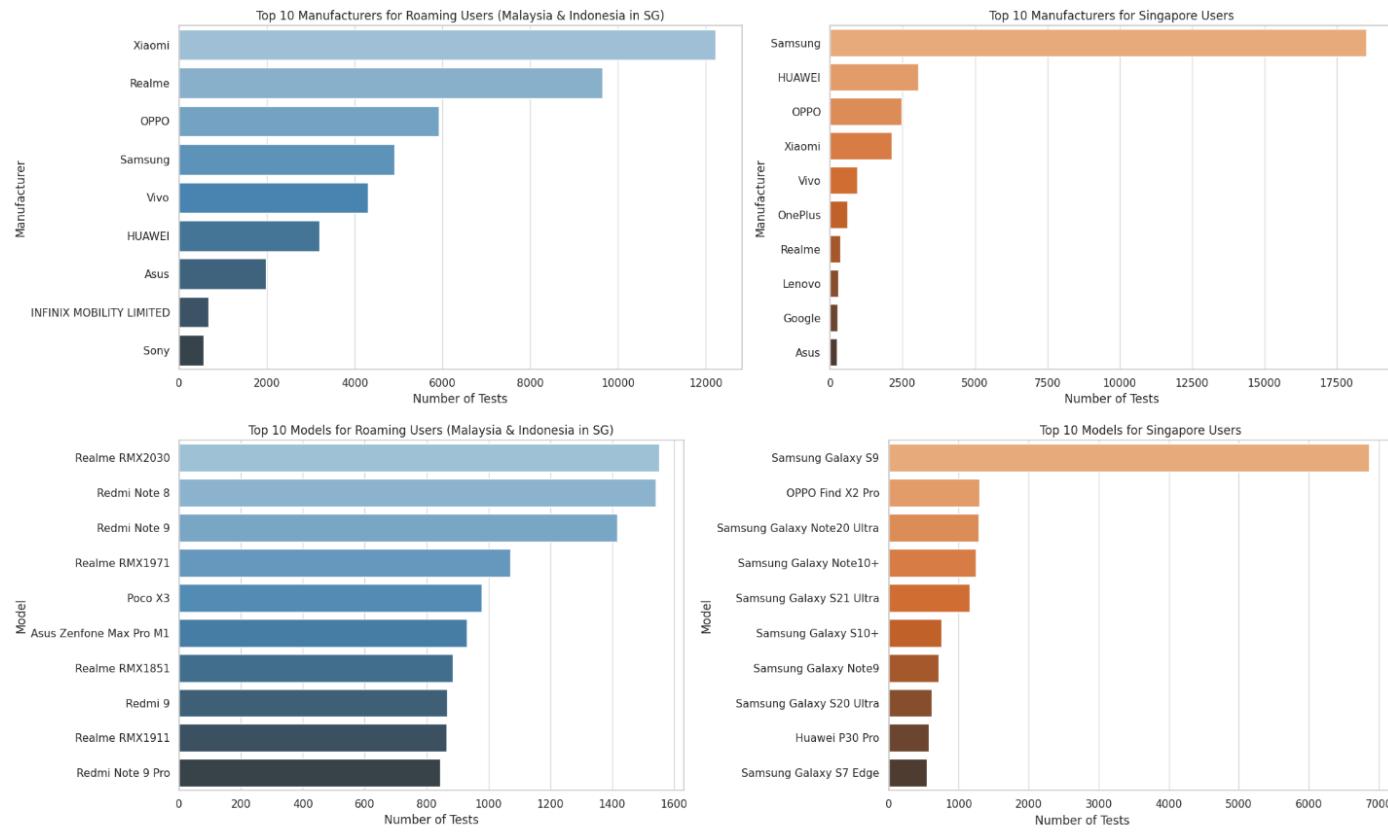
How Malaysia and Indonesia roaming experience in Singapore is affected by their choice of operator



How Malaysia and Indonesia roaming experience in Singapore is affected by their choice of operator

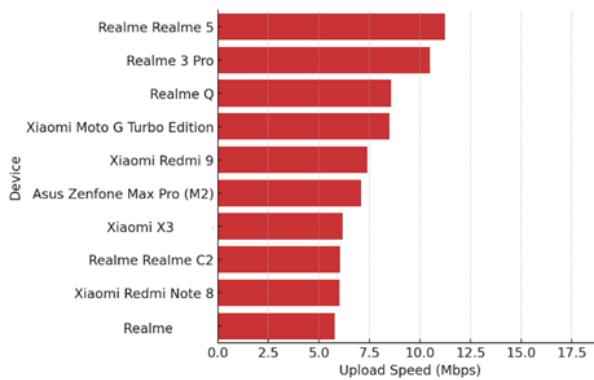
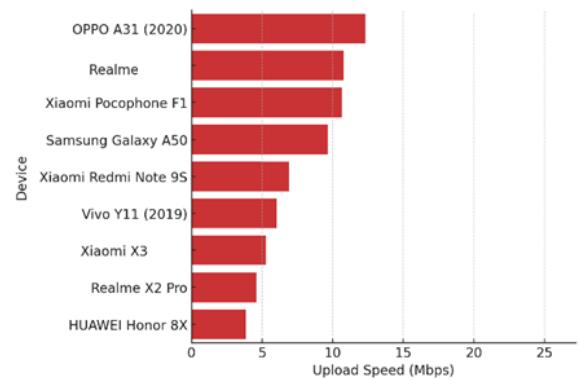
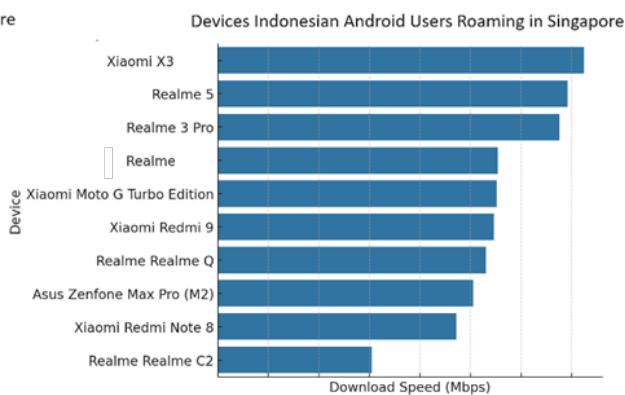
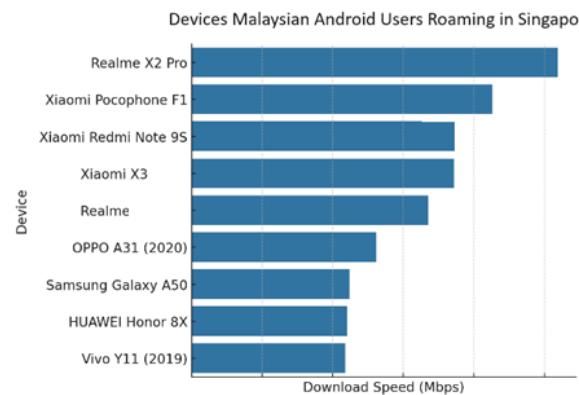


Device Preferences of Roamers



Data Collection Period: January 1 - February 28, 2021

Performance of top 10 Indonesian and Malaysian devices roaming in Singapore



Conclusion