



Mobile Broadband Self-Declaration Report

1st January – 30th June 2019

EXECUTIVE SUMMARY



This report is in facilitation for mobile broadband service providers to self-declare their overall network performance with regards to user experience and not subjected to any regulatory intervention. Mandatory Standards is only applicable to the MCMC's Annual Network Performance Reporting, published in January yearly.

Five (5) metrics shown in this report are:

- i. Mobile broadband coverage map (Nationwide)
- ii. Download Speed (average)
- iii. Upload Speed (average)
- iv. Latency (average)
- v. Video experience (HD quality on mobile device based on 2.5Mbps download speed)

Mobile broadband coverage metric (item i) for both 3G and 4G are simulations based on mathematical permutations. The coverage prediction is based on outdoor levels of signals received.

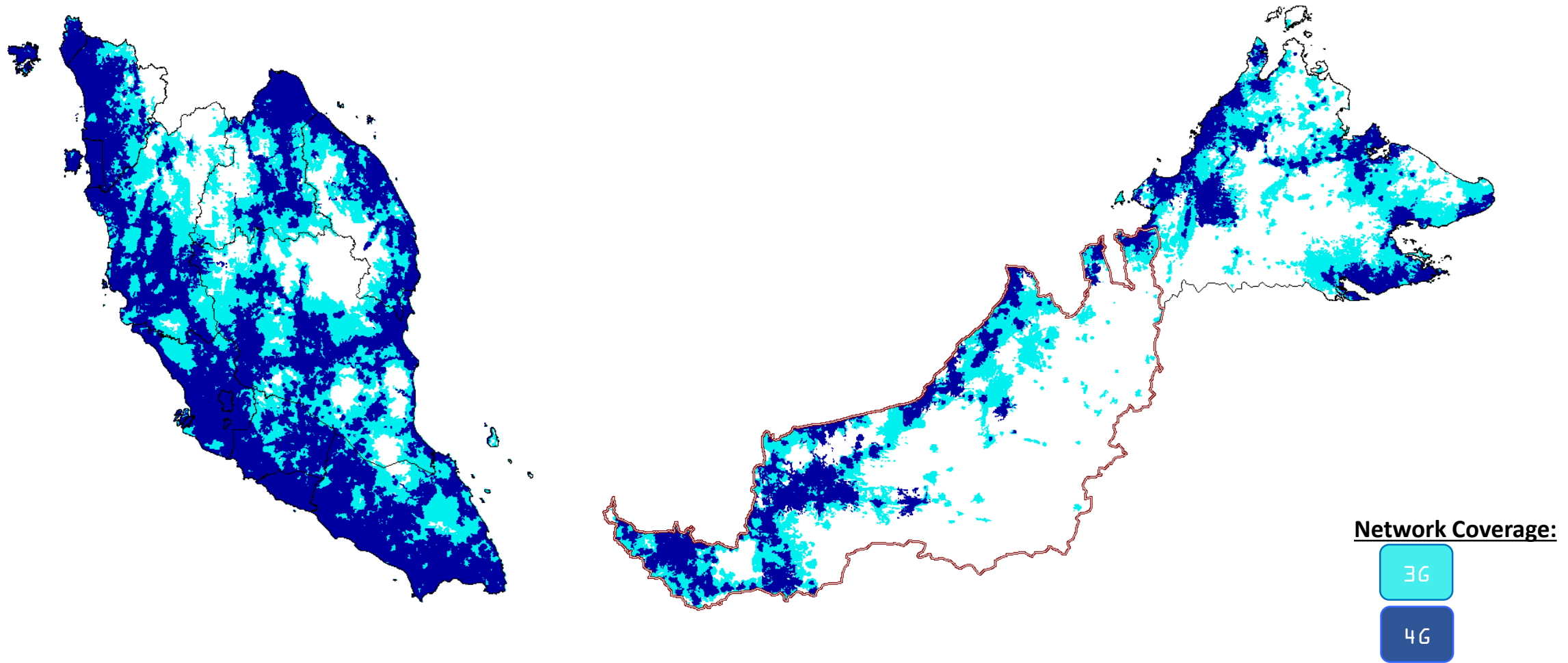
Other metrics (item ii, iii, iv) are generated from crowdsourcing applications with sufficient sample size to indicate the average user experience throughout the states of Malaysia from 1st January – 30 June 2019.

Video experience metric (item v) is based on Standard Definition (SD) or High Definition (HD) quality video streaming on mobile device. A minimum of 2.5Mbps download throughput is required for good HD quality video streaming on mobile device.

There are 6 mobile broadband operators in Malaysia subjected to Mandatory Standard for QoS (Wireless Broadband Access Service). All operators have agreed to self-declare their consumer crowdsourcing data. However, YTL failed to provide their self-declare consumer crowdsourcing data in this cycle.

MOBILE BROADBAND COVERAGE

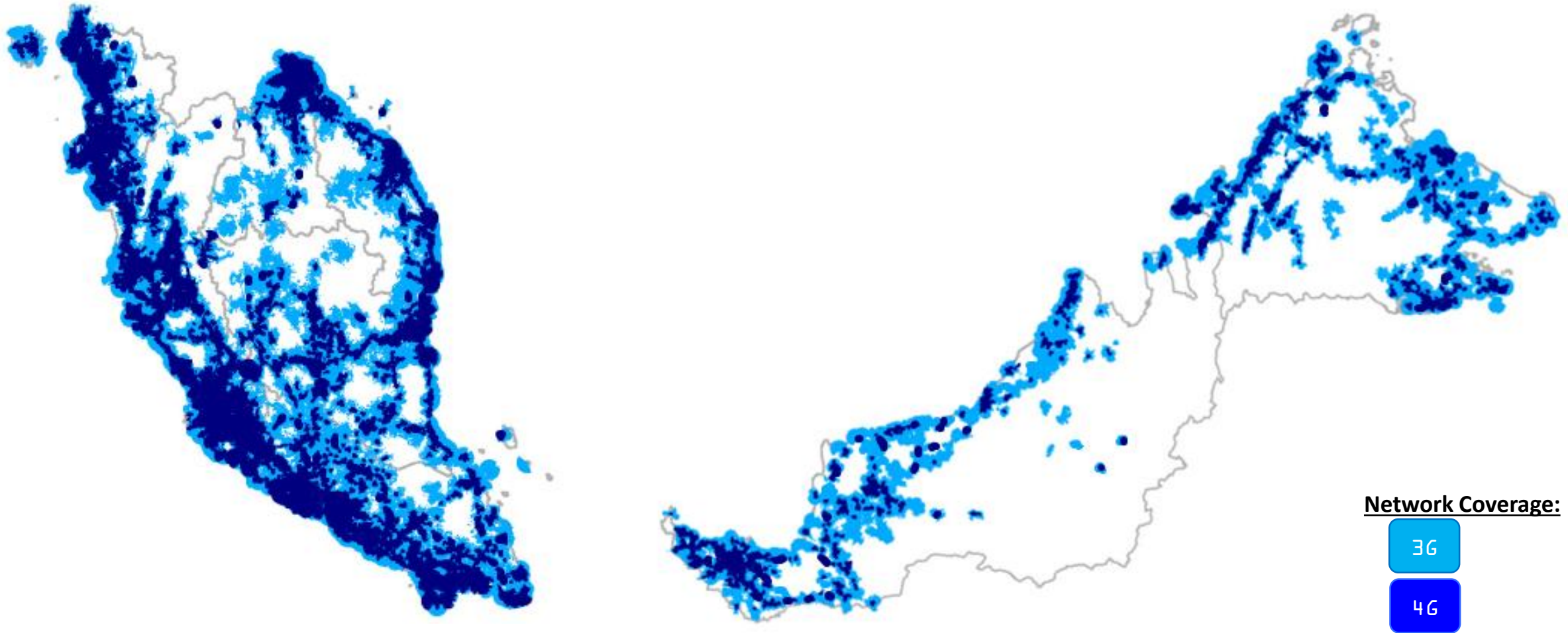
Maxis 3G & 4G LTE COVERAGE



Disclaimer: Coverage prediction above is based on -98dBm signal level for 3G & -110dBm for 4G)

Link to detail map : <https://cw.maxis.com.my/en/consumer/maxis-network-map.html>

DIGI 3G & 4G LTE COVERAGE



Network Coverage:

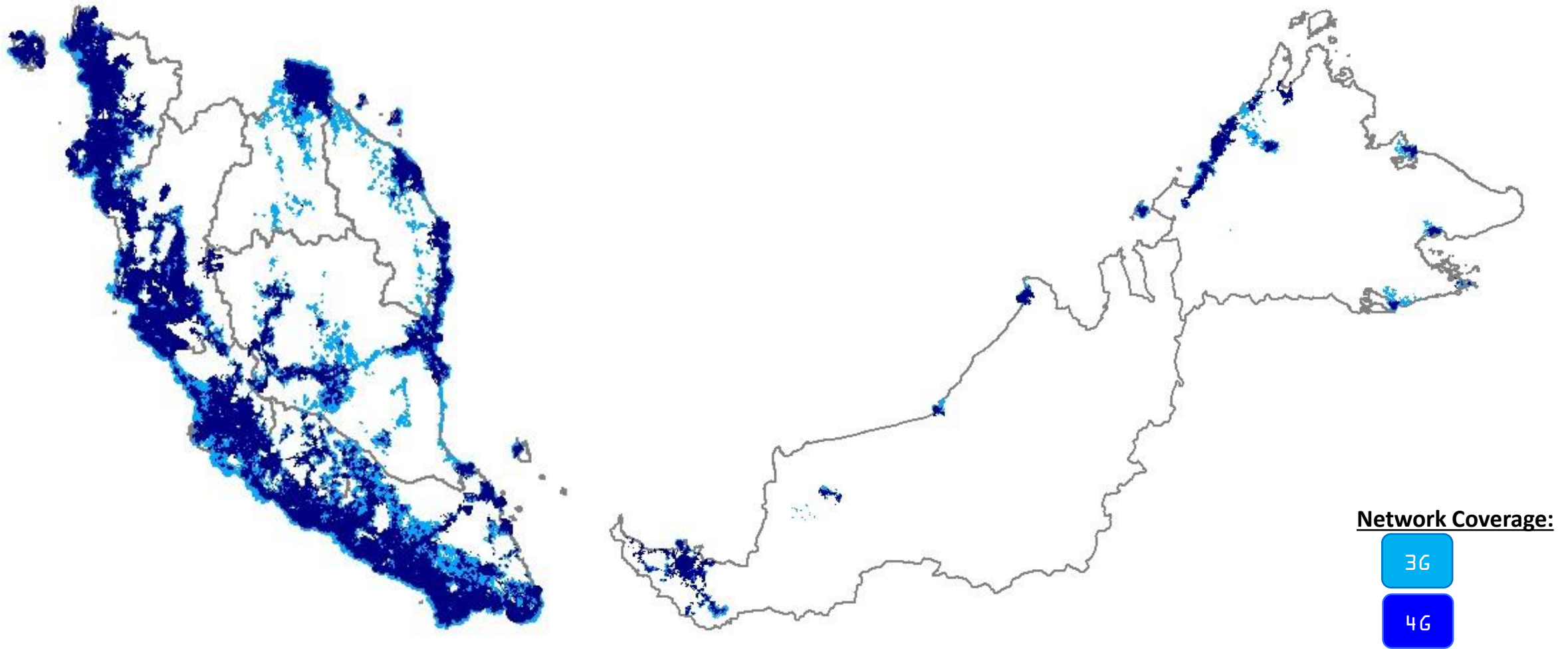
3G

4G

Disclaimer: All coverage maps are provided for informational purposes only based on mathematical permutations. Actual service coverage, quality and availability may vary based on factors such as system limitations, topography, indoor coverage, device model. Information provided here is not a guarantee of service availability.

Link to detail map : <https://www.digi.com.my/support/our-network>

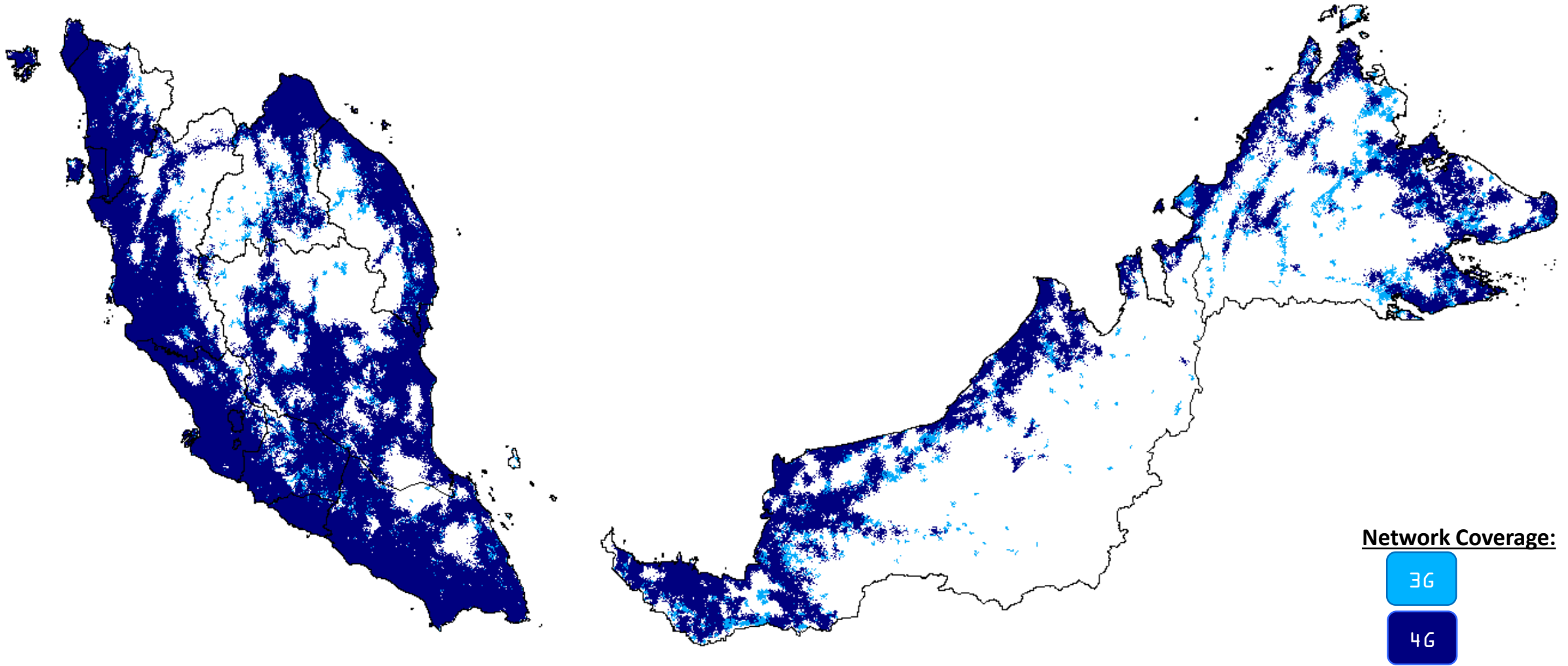
U MOBILE 3G & 4G LTE COVERAGE



Disclaimer: Services are provided on the best effort basis. All coverage maps are provided for informational purposes only based on mathematical permutations. Actual service coverage, quality and availability may vary based on factors such as system limitations, topography, indoor coverage, device model. Information provided here is not a guarantee of service availability. Coverage prediction is based on 4G -110 dBm and 3G -98dBm.

Link to detail map : <https://www.u.com.my/support/selfhelp/coverage-map>

CELCOM 3G & 4G LTE COVERAGE



Network Coverage:

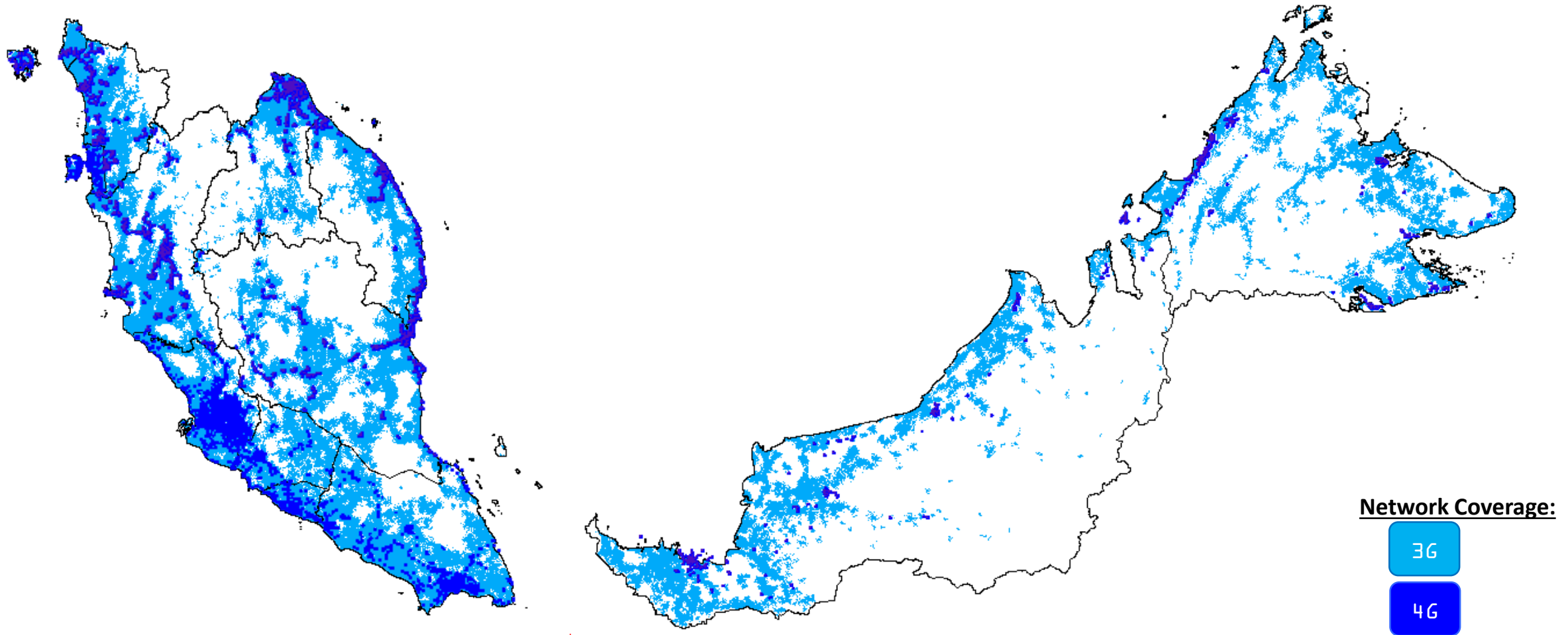
3G

4G

Disclaimer: All coverage maps provided are for informational purposes only and are generated based on mathematical permutations. Actual service coverage, quality and availability may vary according to factors such as system limitations, topography, blockage, indoor coverage, phone and modem model. Services are provided on as available basis and please note that information provided here is not a guarantee of service availability. The coverage prediction is based on signal level of -98dBm and -110dBm for 3G and 4G respectively.

Link to detail map : <https://coverage.celcom.com.my/CelcomCoverageIIPub/faces/CelcomCoverage.jsp>

Unifi Mobile 3G & 4G LTE COVERAGE



Network Coverage:

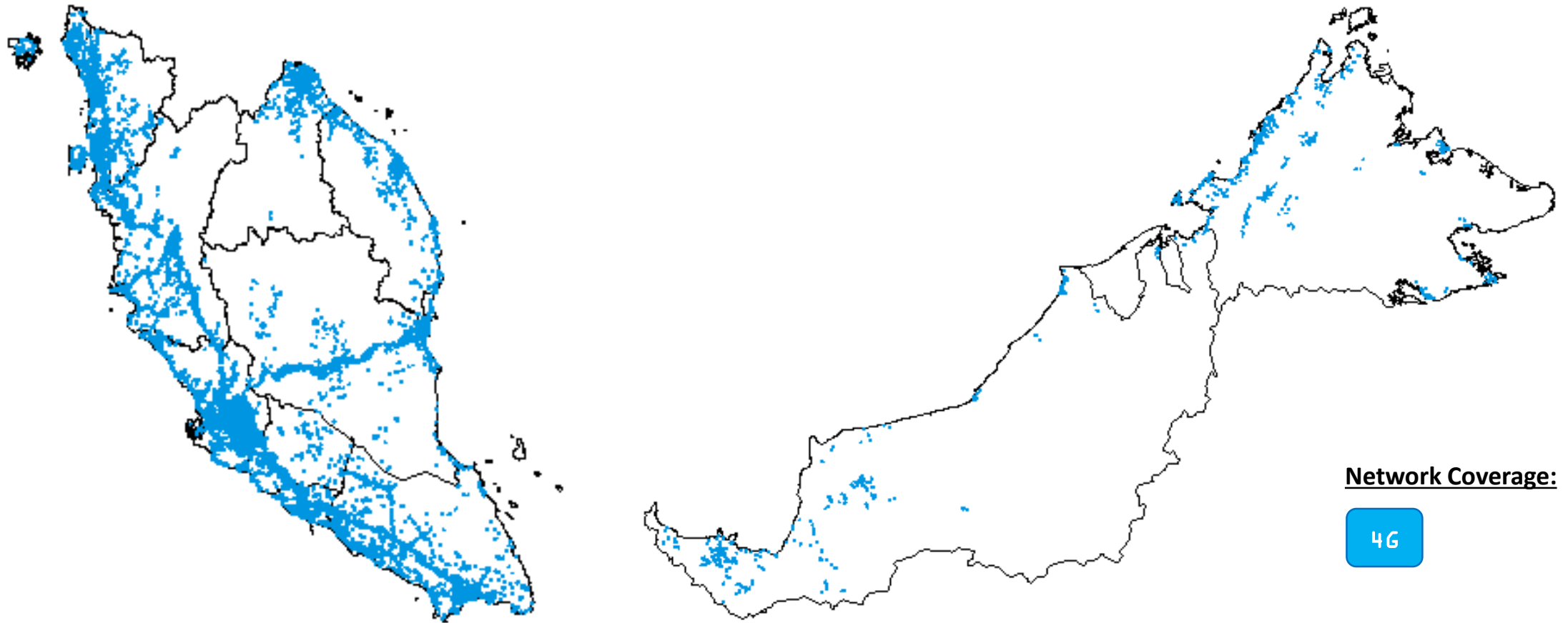
3G

4G

*Disclaimer: All coverage maps provided are for informational purposes only and are generated based on mathematical permutations. Actual service coverage, quality and availability may vary according to factors such as domestic roaming, system limitations, topography, blockage, indoor coverage, phone and modem model. Services are provided on as available basis and please note that information provided here is not a guarantee of service availability. The 4G coverage prediction plot is based on signal level of -91dBm. The 3G coverage prediction plot is based on the domestic roaming with Celcom**

Link to detail map : <https://unifi.com.my/unifi-en/personal/home/postpaid-coverage.page>

YTLC 4G LTE COVERAGE



Network Coverage:

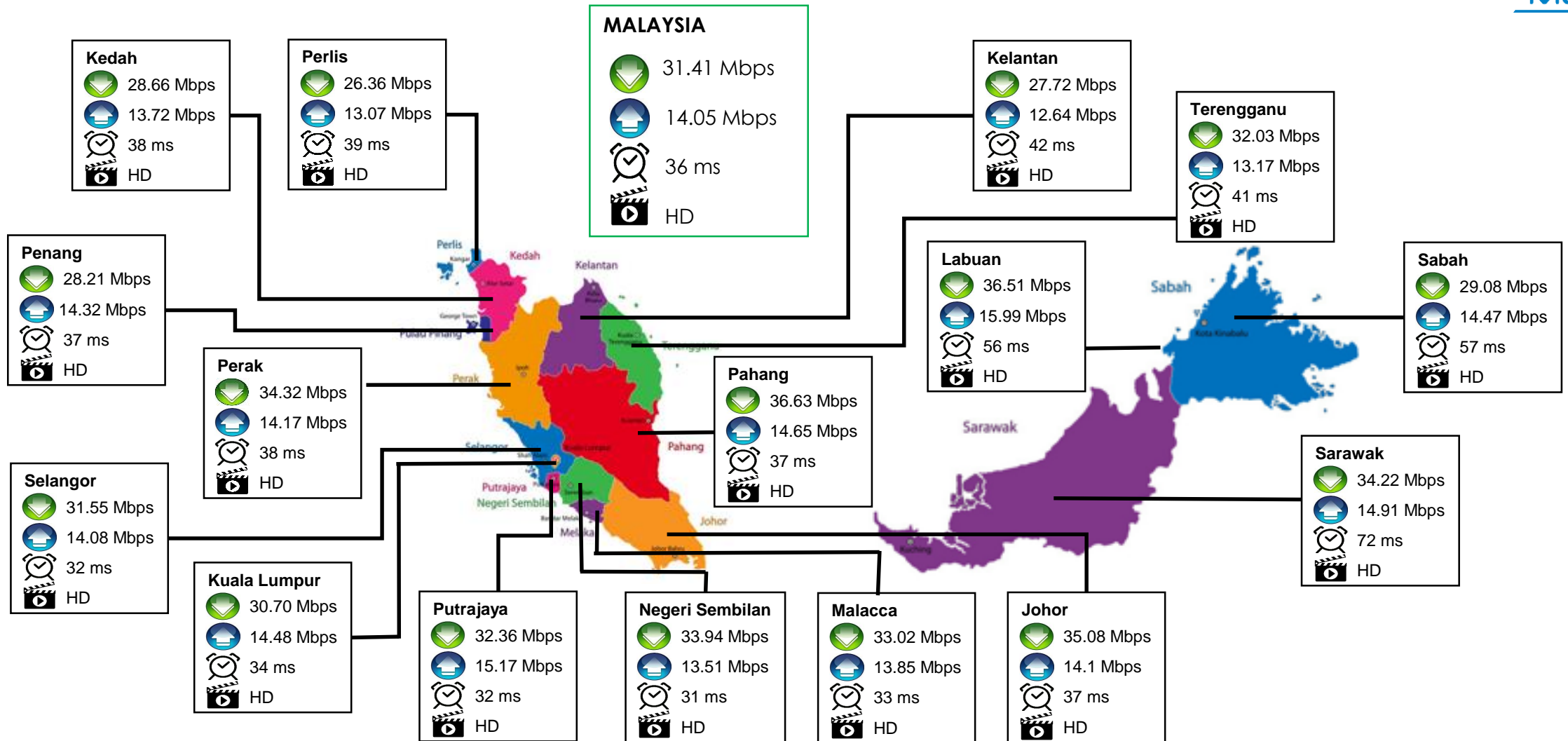
4G

Disclaimer : Mobile broadband coverage map(s) shown is(are) based on computer simulations outdoor at the street level and a minimum of 2.5Mbps download throughput based on 80% of the time, subjected to number of connected users, resource utilization at the base station and network availability. The actual coverage may vary depending on the surroundings, environmental obstructions, distance to the base stations, the actual location of customer's mobile device within the building and the height in comparison to the serving base station height, and the structural type & age of the buildings. Such conditions will affect the actual coverage and customer experience.

Link to detail map : <https://coverage.yes.my/>

MOBILE BROADBAND NETWORK PERFORMANCE

Maxis Network QoS Performance on 3G & 4G



Average download speed



Average upload speed



Average latency

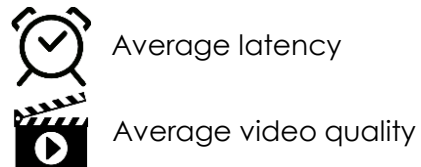
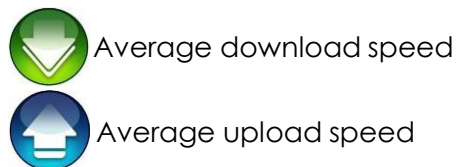
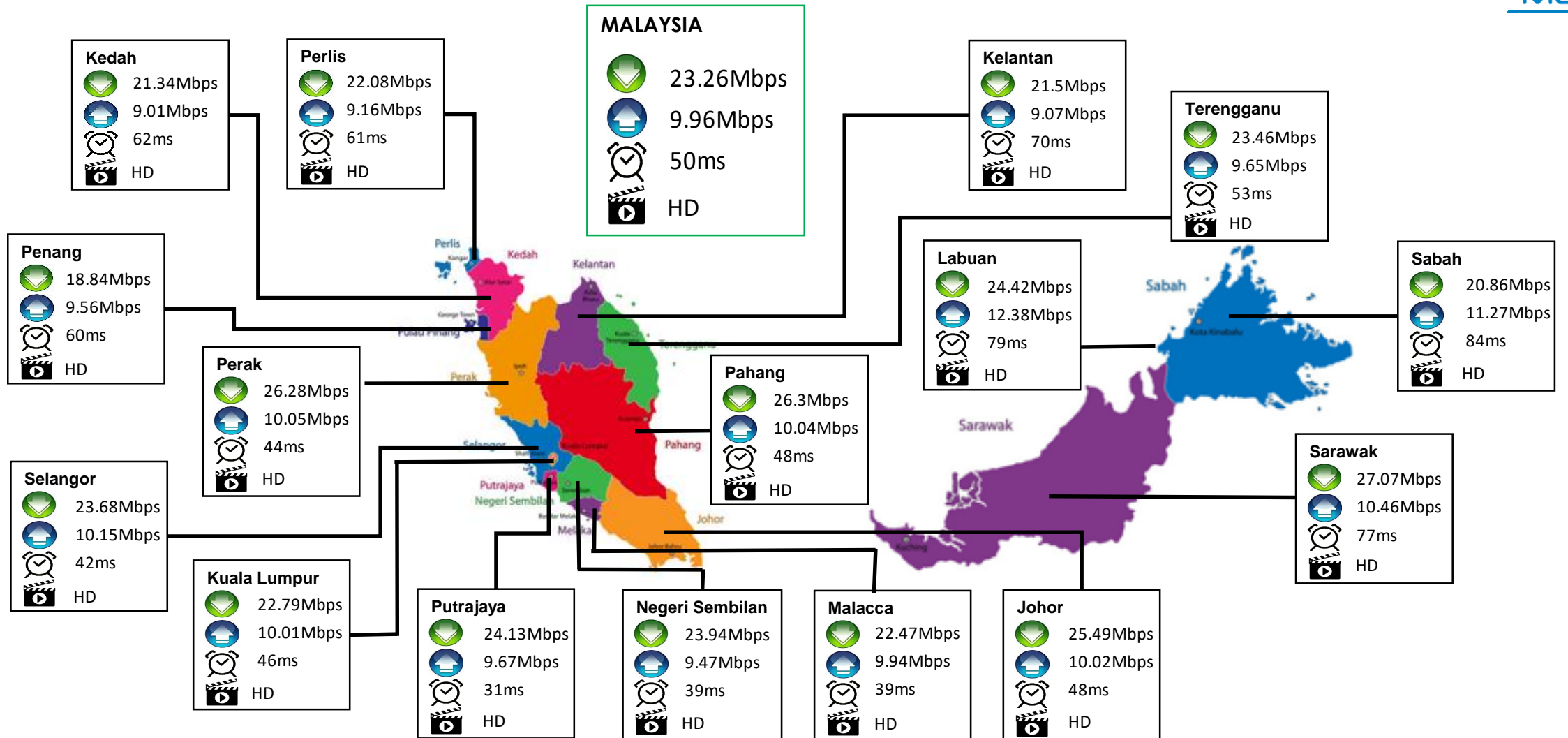


Average video quality

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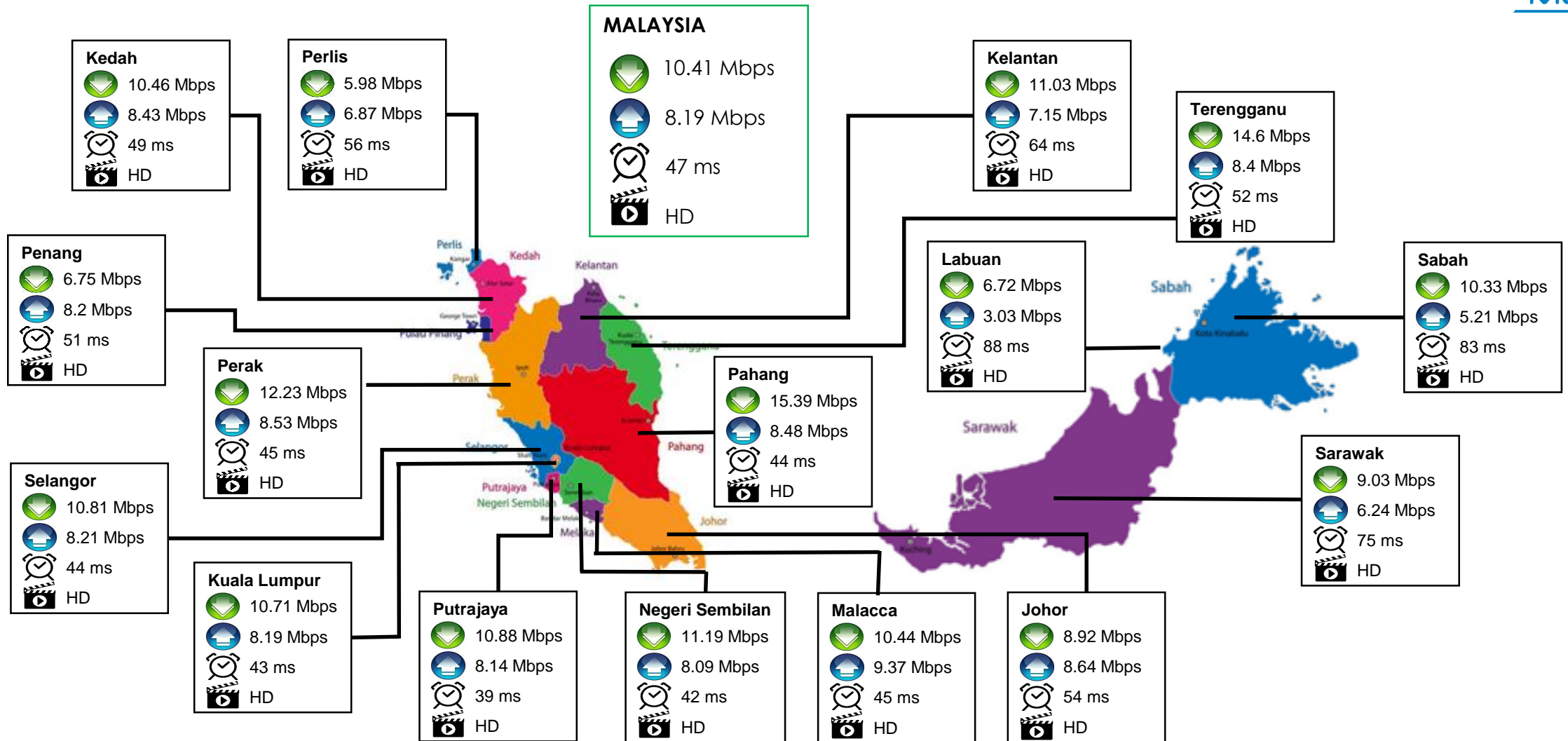
Note: High average latency in Sarawak was due to leased line capacity issue in Jan 2019 which was resolved in February 2019.

Digi Network QoS Performance on 3G & 4G



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U Mobile Network QoS Performance on 3G & 4G



Average download speed



Average upload speed



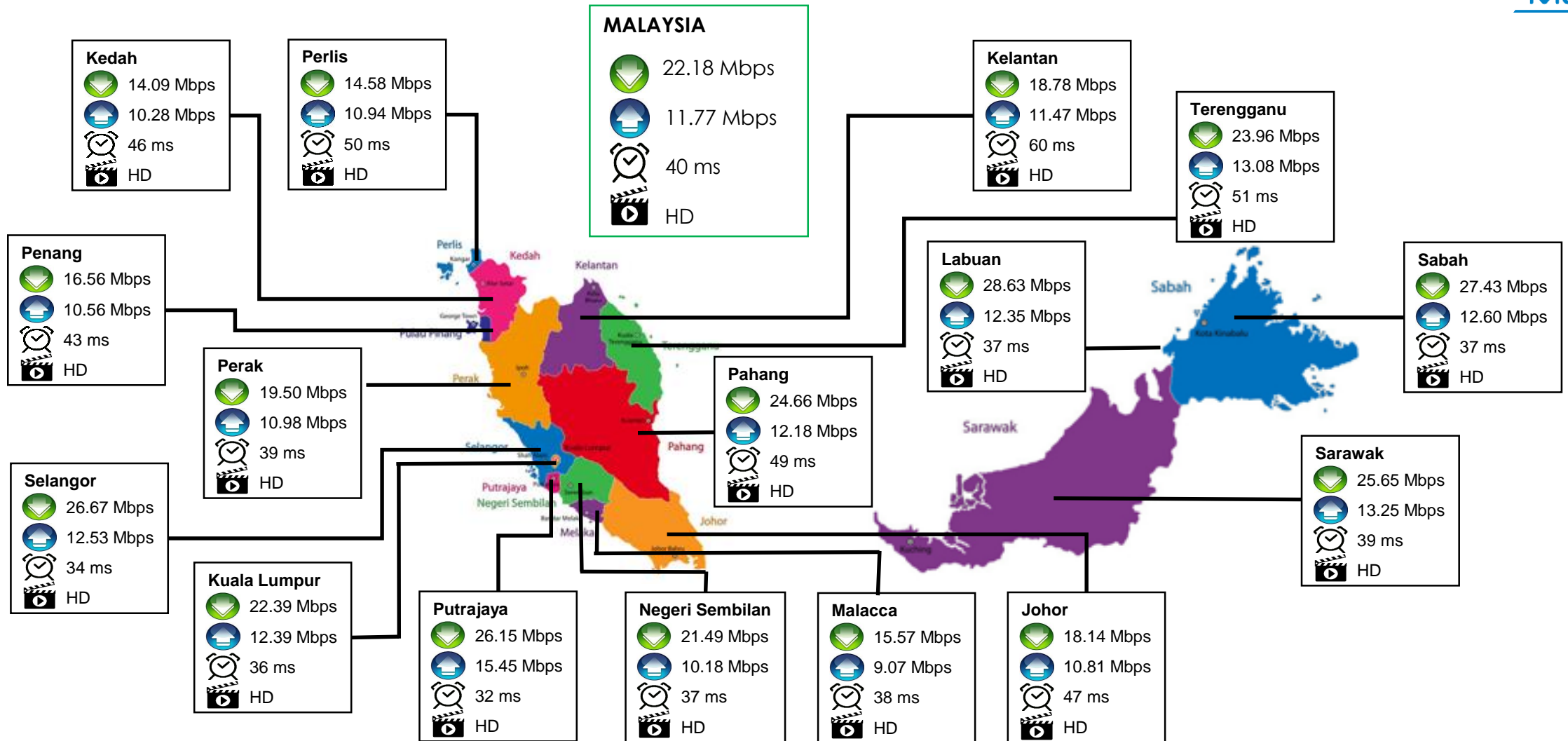
Average latency



Average video quality

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Celcom Network QoS Performance on 3G & 4G



Average download speed



Average upload speed



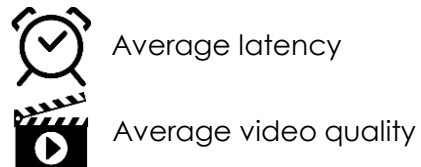
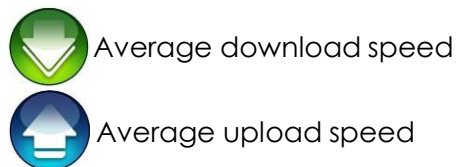
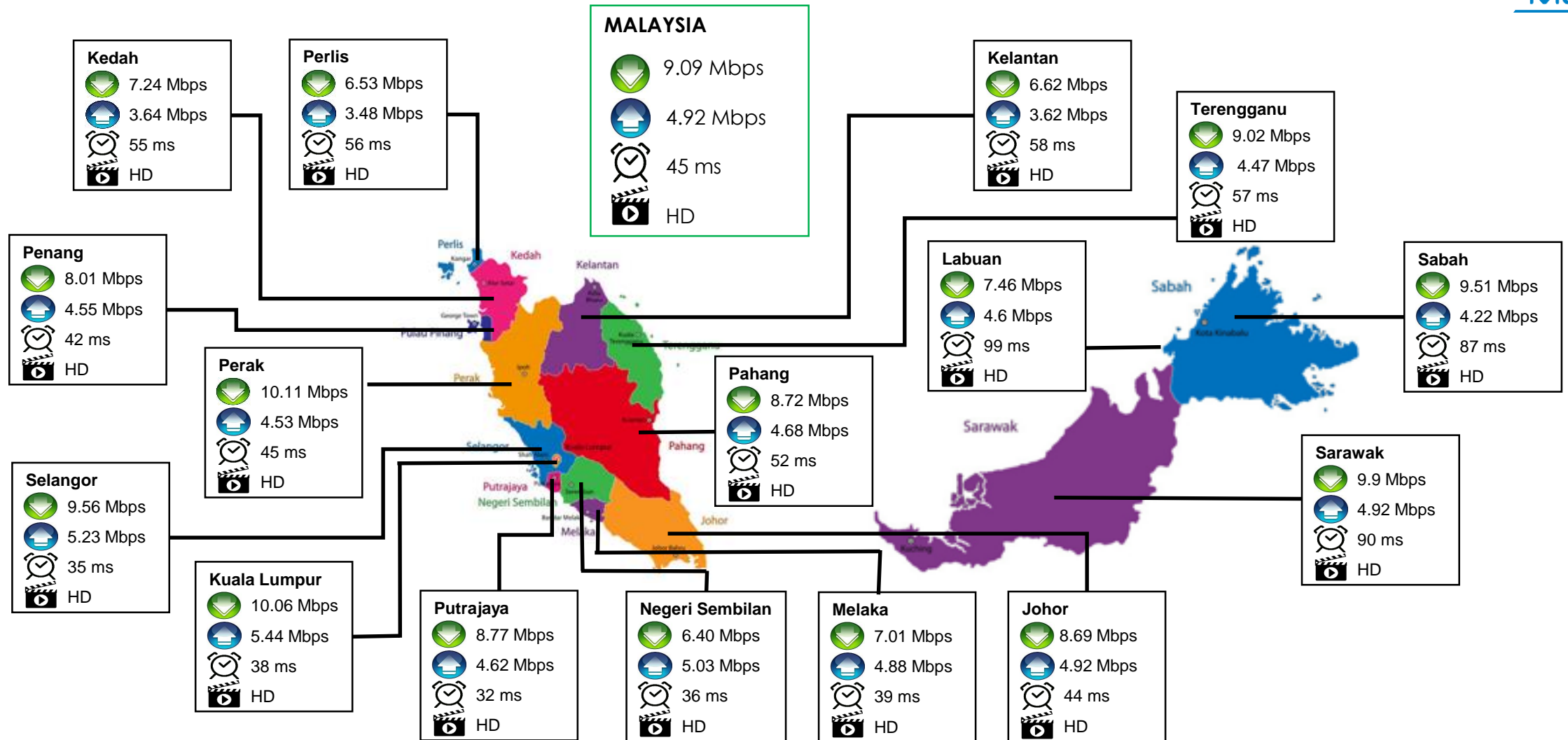
Average latency



Average video quality

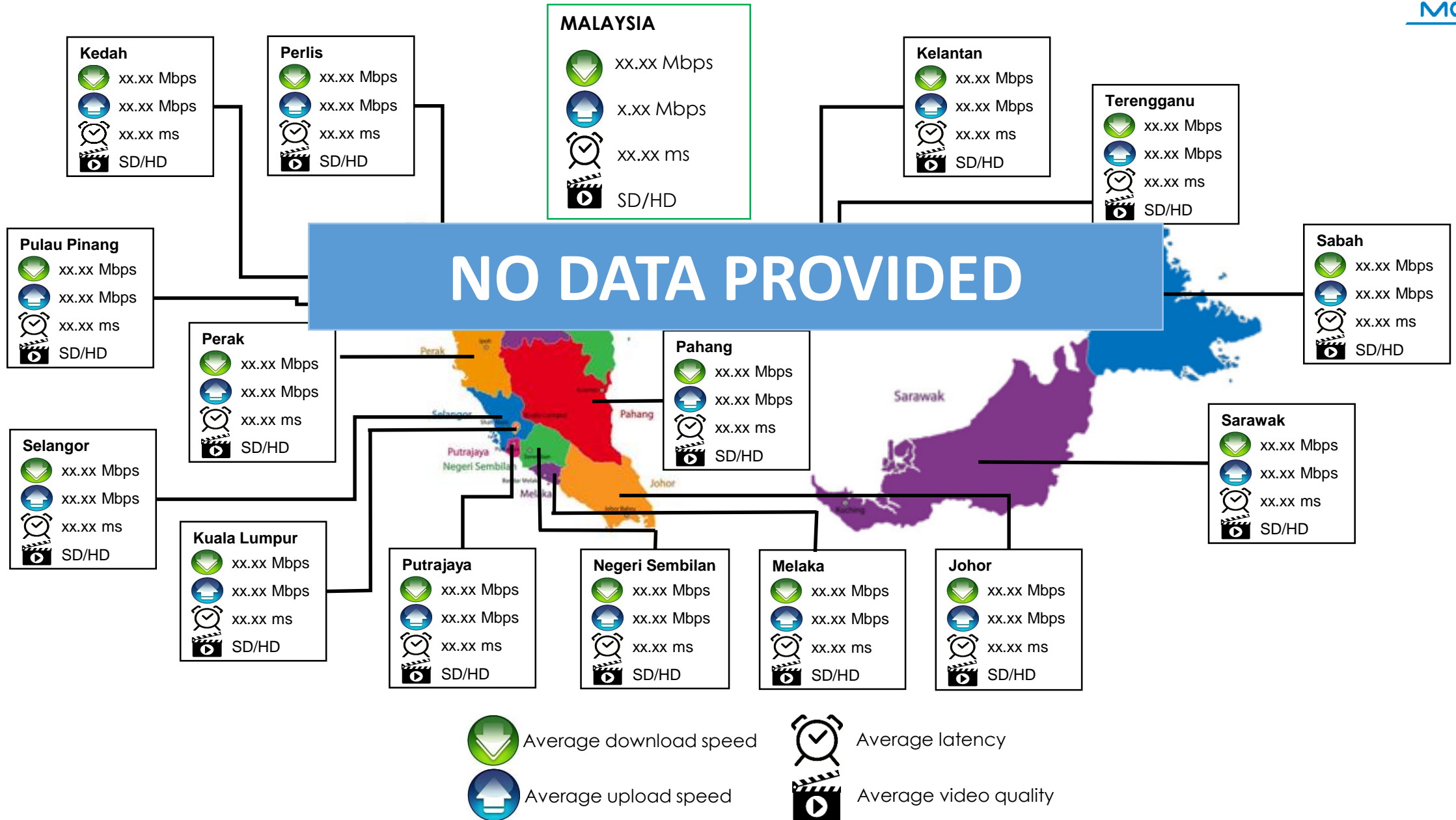
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Unifi Mobile Network QoS Performance on 3G & 4G



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YTLC Network QoS Performance on 4G



END OF REPORT