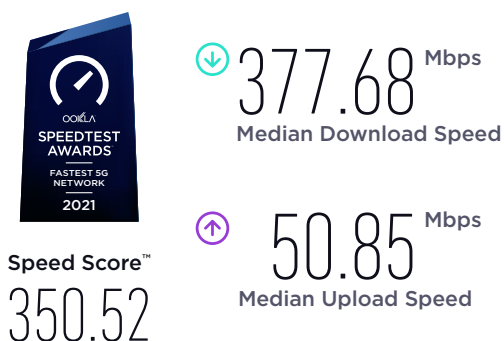# OOKLA®

How CHT Monitors Taiwan's Largest Live Events with Ookla Wind®
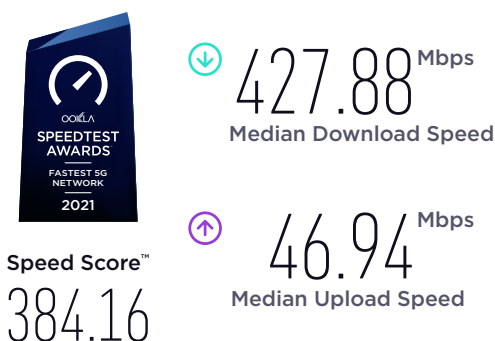
中華電信
Chunghwa Telecom

Taiwan is home to some of the most spectacular end-of-year celebrations in Asia. To ring in New Year's Eve 2022, local government entities planned several massive celebrations in different cities and regions of Taiwan. With crowds of hundreds of thousands in attendance across six different venues, network congestion was a potential issue that could disrupt the festive experience and leave many frustrated with their operator's mobile performance. For local operators, it wasn't enough to simply understand network conditions prior to the events – they needed to monitor performance in real-time to proactively mitigate any congestion issues.

As the largest telecommunications company in Taiwan, ChungHwa Telecom (CHT) understood the stakes. CHT's mission includes delivering fast, reliable network performance — which is especially critical during popular events where attendees want to upload their photos and videos to social media. In preparation, CHT wanted to have testing and monitoring solutions in place to analyze performance at the events and act on any capacity-related performance issues in real-time.

Speedtest Award™ for Fastest 5G Mobile Network in Q1-Q2 2021

OOKLA
SPEEDTEST
AWARDS
FASTEST 5G
NETWORK
2021

377.68 Mbps
Median Download Speed

50.85 Mbps
Median Upload Speed

Speed Score™
350.52

Speedtest Award™ for Fastest 5G Mobile Network in Q3-Q4 2021

OOKLA
SPEEDTEST
AWARDS
FASTEST 5G
NETWORK
2021

427.88 Mbps
Median Download Speed

46.94 Mbps
Median Upload Speed

Speed Score™
384.16

Situation

Traditional drive and walk testing solutions rely on the uploading and post-processing of massive log files — which just won't work when meeting the immediate demands a large live event places on a network. While testing the venues beforehand can provide network insights, they only represent a snapshot in time during more typical usage conditions.

CHT couldn't expect their network to perform the same way during a live event with hundreds of thousands of people in a single location all simultaneously texting and uploading photos and videos of the live tmusic,fireworks, and celebrations. To deliver a superior network experience would take real-time data collection, processing, and visualization.
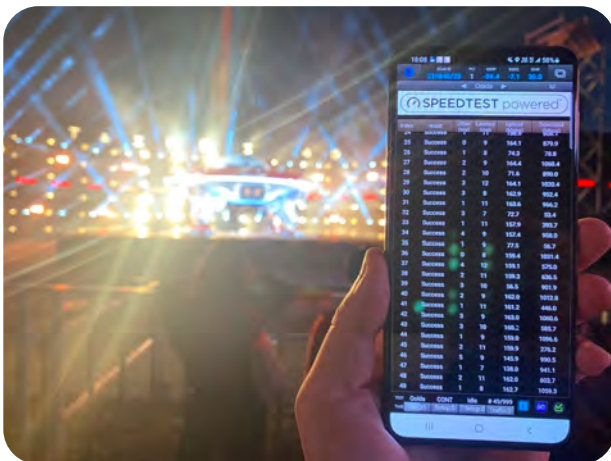
Solution

To get that necessary live data stream, CHT leveraged Ookla Wind, a handset-based testing solution that delivers wireless intelligence on demand, as one of their tools to monitor network performance during the event. Using Wind for the first time, CHT collected data in two phases for function validation and testing purposes. With multiple testers in the field across all six event venues, each carrying devices for Taiwan's top mobile operators, they could rapidly assess their own RF conditions and benchmark key network metrics.
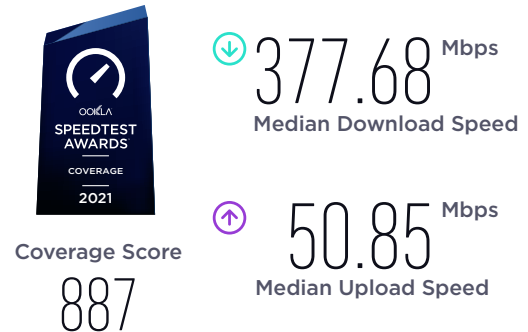
Three days prior to New Year's Eve, CHT sent Ookla Wind scout testers into the field to collect network performance data for the first testing phase. This initial testing gave CHT a baseline of typical, everyday performance and a view into whether they needed to solve any major network issues or make additional optimizations before the events.

Wind is the only drive and walk test platform that features a native Speedtest® integration that tests throughput using the Speedtest Server Network™, a global network of more than 16,000 high-performance servers in over 190 countries. By testing to local network servers, CHT was able to get a more accurate view of typical network performance prior to the event, as well as reliable throughput testing on-site during the busy celebration.

Speedtest Award™ for Best Coverage in Q1-Q2 2021

Coverage Score
887

↓ **377.68** Mbps
Median Download Speed

↑ **50.85** Mbps
Median Upload Speed

Speedtest Award™ for Fastest Mobile Network in Q3-Q4 2021

Speed Score™
84.76

↓ **61.99** Mbps
Median Download Speed
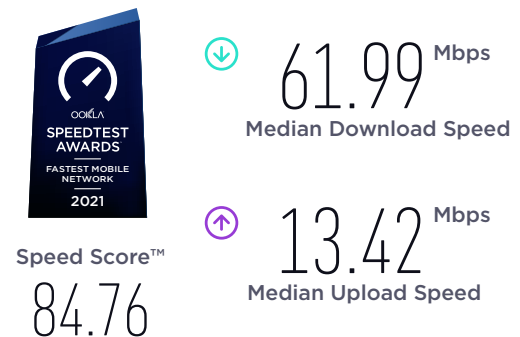
↑ **13.42** Mbps
Median Upload Speed

On the day of the New Year's Eve celebrations, Ookla Wind scout testers divided into nine teams to survey the six event centers with 27 handset-based testing units for the second testing phase. Ookla Wind immediately processed the files and delivered the insights in real-time to a remote control center, where both RF engineers and CHT executives monitored performance. Wind reporting includes a live-streaming KPI dashboard with visualizations that show an instant picture of network conditions and benchmarking views. With outdated legacy testing methods, this data would have taken days to process.

CHT collected a wide array of mobile network performance KPIs, including signal strength, signal quality, signal-to-noise ratio, and download and upload speeds, which gave clear insights into the attendee user experience, compared to other operators.

Outcome

If any problems had arisen, the CHT team would have had the information needed to immediately respond to any network issues related to capacity demand. Real-time analytics means that operators can make network adjustments while testers are still in the field — which is critical at busy, high-profile events like national celebrations.

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Fortunately, CHT was prepared with pre-event testing, and their 5G network handled the increased demand without any need for live optimizations. In past celebrations, LTE connections left the crowds with a poor user experience, but CHT, the winner of the Speedtest Award™ for Fastest 5G Mobile Network in Q1-Q2 2021 and Q3-Q4 2021, Best Coverage in Q1-Q2 2021, and Fastest Mobile Network in Q3-Q4, ensured that the crowds did not face any issues during the event. With live testing from Wind, CHT had the metrics it needed to support customers' connectivity needs in even the toughest network environments.

Benefits
- Monitor live events with real-time testing and analytics to ensure fast, reliable network performance
- Track RF conditions throughout the events to mitigate any performance issues and set benchmarking standards
- Conduct faster, more affordable testing and measurement during live events

About Chunghwa Telecom

Chunghwa Telecom is the largest integrated telecommunication service provider in Taiwan, with offerings in domestic and international fixed communication, mobile communication, broadband, and internet services. In addition to these traditional services, they also provide information and communication technology services to enterprise customers with big data, information security, cloud computing, and IDC capabilities, and are expanding businesses into innovative technology services, such as IoT and AI.

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