

# 5G demo is carried out on moving train in Japan

December 4 2017, by Nancy Owano

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Credit: Samsung

(Tech Xplore)—Samsung fans get to say Cool. A 5G test on an over-100KM/H train (over 60 mph) scored results that are apt to please the corporate insiders, considering all the attention being paid to 5G in the pre-standard stage.

Daniel Fuller in *Android Headlines* made the observation that many companies involved in 5G research and development are almost ready to start working with carriers on deployment, as soon as the official standard is announced.

Once the standard is announced, giants like Samsung want to be ready to roll.

"At this point, 5G is mostly a matter of fine-tuning the software running on the equipment to ensure that it's up to par with the official standard once the 3GPP announces it. This means that [carriers](#) can begin deploying true 5G very soon after the announcement, and some have already begun deploying 4.9G and pseudo-5G solutions in commercial network markets, with plans to refarm them into actual 5G access points once the standard is announced," said Fuller.

This train scene was a joint test in October, by both Samsung and Japan-based operator KDDI. It was carried out in Japan, over a 1-mile stretch of track with a moving train.

Fuller noted the test took advantage of two fixed wireless points that used Samsung's equipment and KDDI's network backhaul.

Samsung used a 5G router (CPE), radio access unit (5G Radio), virtualized RAN and virtualized core, for testing.

Results? Samsung reported a "5G uplink and downlink handover" and achieving a peak [speed](#) of 1.7Gbps.

Fuller commented that "this test sticks out because of the sustained speed and uninterrupted connection over the of 1.5 kilometers, close to a mile, running a section of track that length between two substations." No issues—"and 5G speeds were sustained on the uplink and downlink throughout the entire trial, with peak speeds reaching as high as 1.7 gigabits per second."

All in all, the Japan trial involved a speed test and a testing the connection by streaming 8K video to the train; and uploading 4K video

from a special camera mounted on the front of it.

Daniel Fuller, *Android Headlines*: "Technology conglomerate Samsung does not think that a fast-moving train is a strange place for consumers to demand access to 5G mobile internet, and neither does Japanese mobile carrier KDDI."

Samsung connected the dots between 5G's future and high speed trains.

"The demonstration leveraged capabilities driven by 5G, such as high throughput, low latency and massive connections, which verified potential services and use cases that would be highly-beneficial to passengers and operators of high-speed trains. This could pave the way to vastly improved backhaul for onboard WiFi, superior passenger infotainment and increased security and [analytics](#)."

KDDI also commented.

Yoshiaki Uchida, KDDI, said the success of the demonstration in everyday locations such as a train and train station was an important milestone indicating 5G commercialization was near. Uchida also said that to fulfill their aim to launch 5G by 2020, "KDDI will continue exploring real-life scenario experiments for diverse 5G use and business cases together with Samsung."

**More information:** [news.samsung.com/us/kddi-samsu ... te-5g-demonstration/](https://news.samsung.com/us/kddi-samsu...te-5g-demonstration/)

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