

KDDI and Samsung Complete First Successful Demonstration of 5G on a Train Moving at 100km/hour

Cross-industry collaboration drives breakthrough as 5G uplink and downlink handover -- and 1.7Gbps speed -- were achieved on a high-speed train traveling over 100km/hour (over 60mph)

Seoul, Korea – December 1, 2017 – KDDI and Samsung Electronics Co., Ltd. have successfully completed the first 5G demonstration on a moving train traveling at over 100 km/hour (over 60 mph). This was achieved along a section of track where the distance between two stations was approximately 1.5km (nearly 1 mile). During the demonstration, the companies achieved a successful downlink and uplink handover as well as a peak speed of 1.7 Gbps.

The tests were carried out from October 17th through the 19th in the city of Saitama in Japan, near Tokyo. For the tests, Samsung's 5G pre-commercial end-to-end solution was used, which is composed of a 5G router (CPE), radio access unit (5G Radio), virtualized RAN and virtualized core.

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.

In addition to a successful downlink and uplink handover at more than 100km/hour (over 60 mph), 8K video was downloaded via the CPE installed on-board, and a 4K video, filmed on a camera mounted on the train, was able to be uploaded.

"In collaboration with Samsung, KDDI has opened up the possibility for new 5G vertical business models, such as a high-speed train. With 5G expected to bring railway services to a whole new dimension, the success of today's demonstration in everyday locations such as a train and a train station is an important milestone indicating 5G commercialization is near," said Yoshiaki Uchida, Senior Managing Executive Officer at KDDI. "To fulfill our aim to launch 5G by 2020, KDDI will continue exploring real-life scenario experiments for diverse 5G use and business cases together with Samsung."

"The potentials that 5G holds is powerful enough to transform the landscape of our daily lives," said Youngky Kim, President and Head of Networks Business at Samsung Electronics. "The success of today's demonstration is a result of our joint research with KDDI, which we will continue to pursue as we explore next generation networks and use cases. This will include research on diverse spectrums and technologies, as well as new business models and applications."

Since 2015, KDDI and Samsung Electronics have been closely collaborating to demonstrate 5G millimeter wave performance in various scenarios. This includes a multi-cell handover

demonstration that took place in February, where the device was mounted on a car that traveled in the busy streets of Tokyo ([Link](#)), and a high-speed mobility test with the device attached on a car racing at 200km/h in Yongin, Korea in September ([Link](#)).

About KDDI

KDDI, a Fortune Global 500 company and one of Asia's largest telecommunications providers, has a proven global track record of high quality service delivery. We provide a multitude of services, including mobile phone services, fixed-line communication, and data centers, thus making us the optimum one-stop solution provider for everything telecommunications and IT environment related.

About Samsung Electronics

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions. For the latest news, please visit the Samsung Newsroom at <http://news.samsung.com>.

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