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🌐 <https://ieeexplore.ieee.org/document/11196760>



Company Introduction

Kozo Keikaku Engineering (KKE) is a technology consulting firm that tackles social issues using engineering expertise. Founded in 1956 as a structural design office, we have grown as a "Professional Design & Engineering Firm bridging universities, research institutions, and industry," expanding our business into diverse fields such as construction and disaster prevention, information and communications, manufacturing, and decision support. Through engineering consulting and product services based on engineering knowledge, we work to help solve increasingly complex societal challenges.

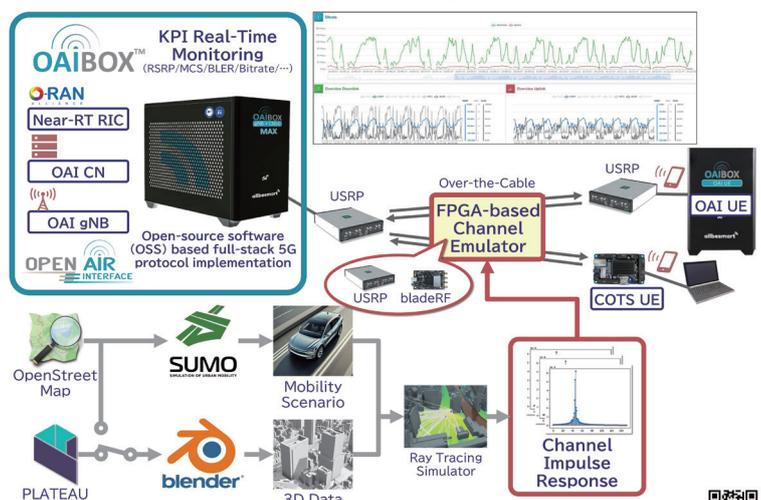
Products Details

This is a wireless digital twin testbed for faithfully emulating complex real-world wireless communications in a virtual space. Its key feature is that it is built entirely from open-source software and general-purpose radio devices, such as software-defined radio, making it dramatically more cost-effective than conventional end-to-end wireless evaluation systems. The 5G core network, radio access network, and O-RAN Near-RT RIC functions are provided by OpenAirInterface, while the radio channel is computed by Sionna RT, together forming a truly end-to-end wireless evaluation system. Using this testbed, you can emulate 5G communication scenarios for vehicles, for example, in dynamic fading radio environments within a laboratory setting.



OAIBOX: OSS-based 5G Evaluation Environment

Channel Emulator: FPGA-Based Cost-Effective Way to Reproduce High-Fidelity Radio Environment



T. Iye, M. Sakamoto, S. Takaya, E. Sato, Y. Susukida, Y. Nagaoka, K. Maruta, and J. Nakazato "Open Wireless Digital Twin: End-to-End 5G Mobility Emulation With OpenAirInterface and Ray Tracing," in IEEE Access, vol. 13, pp. 175109-175122, 2025.

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