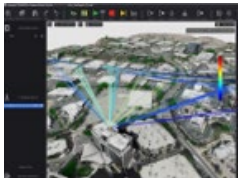
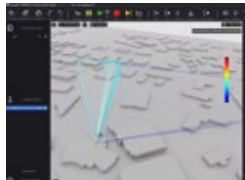


Choose the Right RaySim Digital Twin for Every Engineering Decision

Built for 5G, 5G-Adv and 6G — From Algorithm Benchmarking to Site-Specific Field Issue Replication in the Lab.

Three Map Tiers for Two Validated Workflows

Keysight Channel Studio RaySim's map tiers enable the creation of accurate RF Digital Twins that connect to *Software-in-the-Loop* and *Hardware-in-the-Loop* workflows¹ to address multiple industry applications.

Map Tiers	Description	Purpose / Use Cases
Premium 	• What: High-definition custom maps • Where: Selected locations • How: Created on demand	• Link-level field issue replication in specific locations • Cell deployment optimization for specific locations • Ideal for rural, urban and suburban scenarios
Standard+ 	• What: Augmented Open Street Maps (OSM) by incorporating vegetation and terrain data from available sources • Where: Full global coverage • How: Built-in RaySim functionality	• Algorithm, chipset, Network Equipment Manufacturer (NEM), antenna, etc. feature performance benchmarking • AI Radio Access Network (RAN) / AI on RAN algorithm training and benchmarking • Ideal for urban and suburban scenarios
Standard 	• What: Standard OSM • Where: Full global coverage • How: Built-in RaySim functionality	• User Equipment (UE) and RAN performance evaluation in spatially consistent environment • Ideal for urban scenarios

1. RaySim integrates seamlessly (through Python API) with Keysight end-to-end simulation solutions (e.g., EXata, SystemVue, WirelessPro, S6221A AI-RAN Simulation Toolset), and emulation solutions (e.g., PROPSIM, RuSIM).

From benchmarking 5G-Adv and 6G algorithms (e.g., AI, ISAC) across thousands of urban, suburban, rural and indoor scenarios to replicating a specific link failure in the lab, the right map tier turns RaySim simulations into real-world RF behavior — so you can evaluate devices, chipsets and base stations / RAN performance anywhere in the world, without costly field trials.

What this Means for Engineering Teams?

- **Scale:** Validate complex scenarios such as stadiums and factories before deployment.
- **Optimize:** Test advanced algorithms (e.g., mMIMO precoding) across multiple real-world scenarios in the lab, cutting field trials.
- **Replicate Reality:** Accurately replicate difficult field issues (in any corner of the world) inside the lab for faster root-cause analysis.

Accuracy that Scales with your Test Requirements

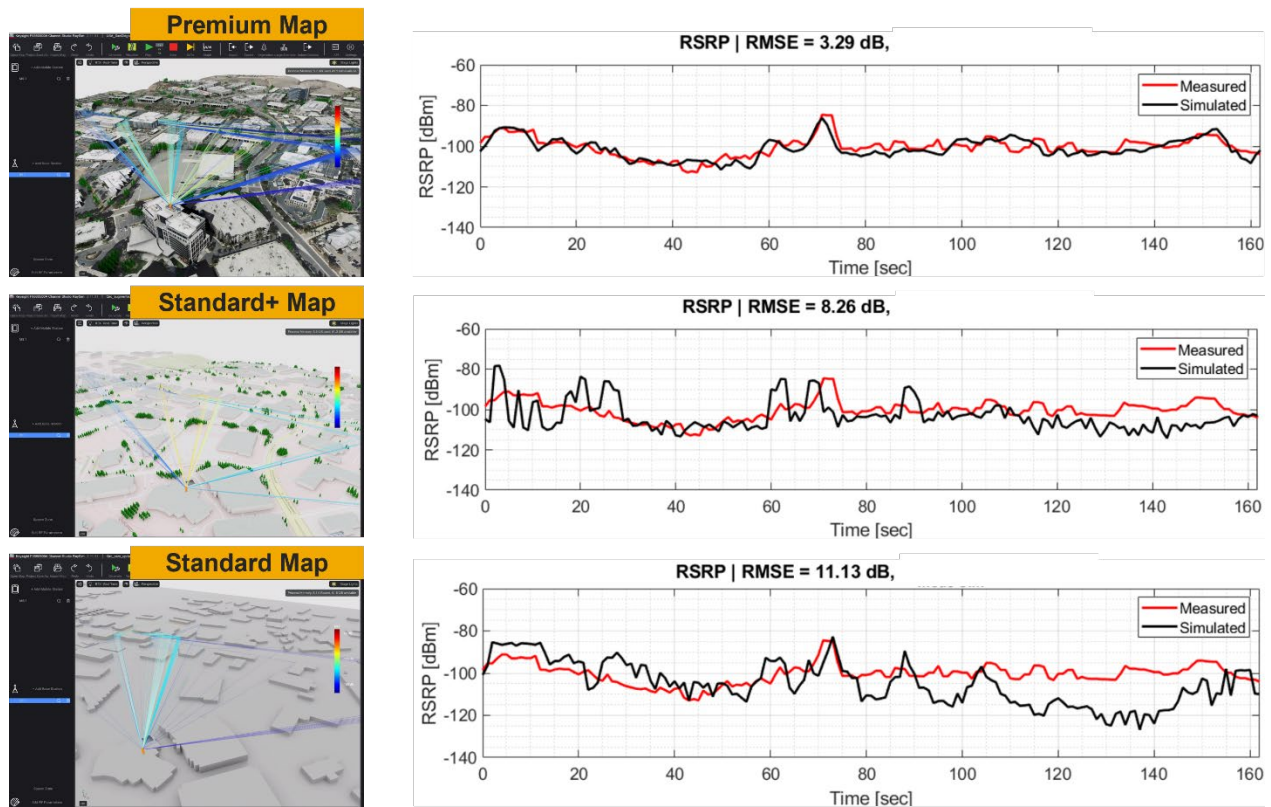


Figure 1. Same Digital Twin scenario — mMIMO Base Station with dynamic UE route in San Diego area — using RaySim three map options. RaySim simulated (black curve) versus drive test field measurement (red curve) KPI.

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com.