



DLR Institute Spirent Case Study

Task

The DLR Institute of Communication and Navigation is developing GNSS-receivers for interference and multipath mitigation. These receivers process the signal from a number of independent antenna elements. In order to test receivers and algorithms this Institute had a requirement to simulate the output signals of the individual elements of an array antenna at RF with the appropriate phase shifts depending on the satellite-user geometry and the position of the antenna elements within the array.

Solutions

The DLR Institute had developed a concept for mapping the individual satellite signals to the input of the antenna elements, which required access to the digital baseband signals of the simulated satellites.

DLR selected Spirent for providing a specialized solution to meet DLR's needs based on Spirent's multi-output simulators. Spirent and DLR engineers held very open discussions to determine DLR's requirements and to plan a solution within the required timescales. The result was a solution based on an off the shelf multi-constellation GNSS simulator tailored to DLR's requirements.

Benefits

The use of a Spirent simulator has been extremely helpful and time saving in the development of DLR's array receivers and the testing of their array processing algorithms. Since the solution offered was based on a Spirent simulator which retained the full functionality and flexibility of all Spirent constellation simulators, DLR used it also for testing the performance evaluation of third party provided receivers, and is currently setting up a GBAS simulation.

"The Spirent simulator has been a tremendous success and is now the main test equipment for our HW-simulations" Dr. Achim Hornbostel, DLR.

Spirent's unrivalled experience and expertise in GNSS simulation ensures accurate results that customers trust and rely on to evaluate their products and applications. Contact us to find out how Spirent solutions can help you.

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