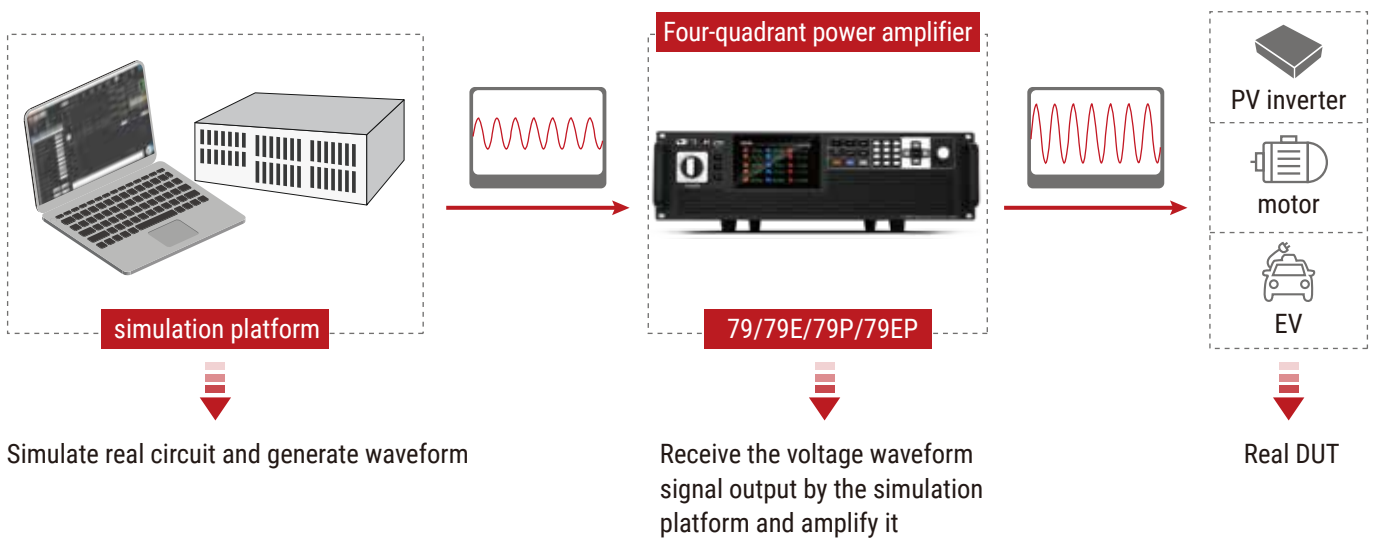


ITECH Test Solution

Power Hardware in the Loop

Power hardware in the loop, PHIL realizes the extension of signal level real-time simulation to power level. It can flexibly change the system topology, simulate various working conditions, and solve the problems caused by the system building and testing difficulties. Power hardware-in-the-loop testing can test real power devices, such as energy storage equipment, PV devices, wind turbines, generators, EV motor drives, electric motors, and networks composed of the above devices.

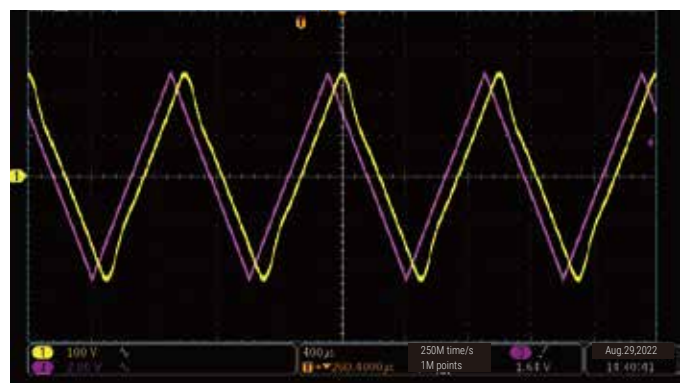
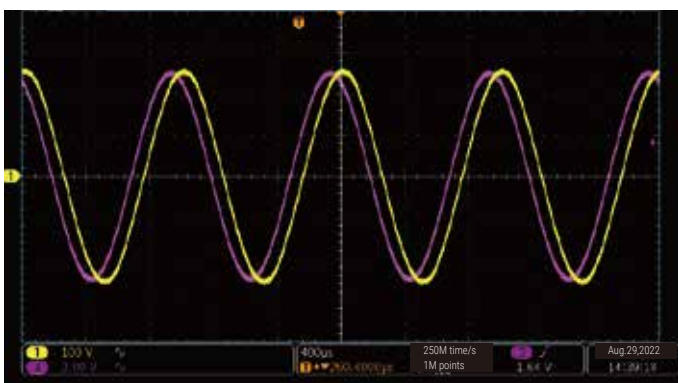
Testing Solution

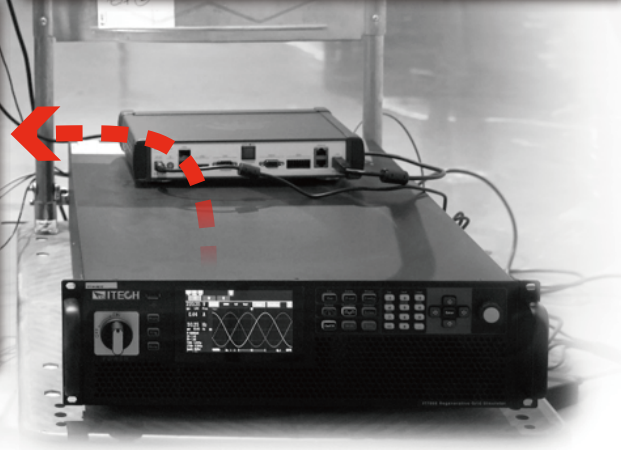


ITECH grid simulator can amplify the digital or modeled analog signal through the external analog interface without distortion, and convert it into a real waveform. It can simulate power level waveforms with high fidelity, and more realistically simulate test scenarios such as power generation or grid energy storage.

PHIL test by IT7900

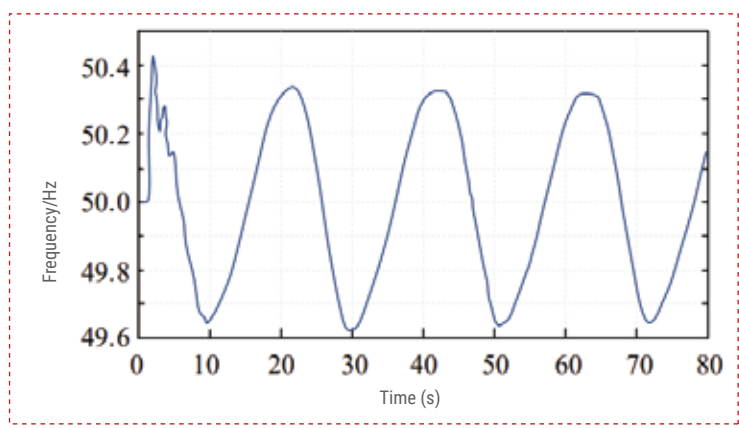
Real measurement results: Delay 65 μ s, rising and falling speed 2V/ μ s





Real Case

When the grid frequency oscillates between 49.7Hz~50.3Hz, the oscillation frequency is 0.05Hz (0.01Hz~2.5Hz optional), see voltage waveform on the right



IT7900EP/IT7900P High performance regenerative grid simulator

3 in 1 : AC power source + grid simulator + RLC load

IT7900E/IT7900 Regenerative grid simulator

One unit to complete the island simulation test



- Four quadrant power amplifier
- Master-slave current sharing, parallel up to 10MVA
- Bandwidth up to 0.01~2.4kHz
- Delay times ≤ 65μs
- The fastest rising/falling speed can reach 2.5V/μs

- Support single phase/three phase/reverse phase
- Output modes : AC/DC/AC+DC/DC+AC
- Provide rich trigger configurations to realize data collection and simulation functions

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