Pactiv-R + Orac

High-Performance Unified Power Delivery Test Platform

<25 ns	1.5 kW	200x	30+20
RISE / FALL TIME	PEAK TEST POWER	FASTER VALIDATION	LOADCELLS & RAILS

OVERVIEW

The PactivR Orac is a unified, high-performance power delivery test platform that combines Pactiv transient/DC load hardware with the Orac AI-enhanced controller — enabling chip and board designers to validate and characterise PDNs faster, and with greater ease, than any conventional test approach.

With up to 1.5 kW test power, DC load capability up to 900 A continuous and 1800 A instantaneous, sub-50 ns transient edges, and 30 programmable LoadCells across 20 differential sense, the platform recreates the exact load dynamics of real silicon — delivering approximately 200× faster validation than passive or conventional active setups, and a measurably shorter path to robust power delivery designs.

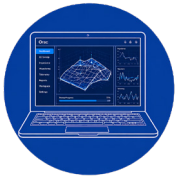
The platform forms part of a broader Pactiv product family. Alongside the currently available PactivR system, additional variants including Pactiv Lite and Pactiv High Power will be introduced this year, all built around the common ORAC controller architecture. This shared platform approach enables a consistent software environment, workflow continuity, and scalable deployment across different power validation requirements.

PLATFORM ARCHITECTURE

PACTIV HARDWARE

The transient and DC load hardware module. Delivers up to 1.5 kW with 900 A continuous and 1800 A instantaneous DC load capability, sub-25 ns rise/fall edges via 30 independently programmable LoadCells and 20 differential sense rails — recreating real silicon load dynamics under lab conditions with the speed and precision modern PDN characterisation demands.

ORAC CONTROLLER & SOFTWARE



The intelligence layer. Orac's AI-enhanced software stack provides 3D Sweep, large-signal impedance measurement, arbitrary waveform generation, AVS/PMBus telemetry, automated reporting, transimpedance workspace management — turning hardware performance into actionable engineering insight.

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FEATURES & CAPABILITIES

3D SWEEP

Multi-axis sweeps across frequency, load, and output voltage — mapping full PDN behaviour in one automated pass.

LARGE-SIGNAL IMPEDANCE

PDN impedance under realistic drive conditions, exposing non-linearities invisible to conventional small-signal VNA techniques.

ARBITRARY WAVEFORM GEN

Custom current profiles replicating workloads, DVFS events, or burst patterns at nanosecond timing resolution.

AI VR OPTIMISATION

TeraDeep-backed AI evaluates regulator compensation across the full design space, minimising droop and overshoot automatically.

AVS / PMBUS TELEMETRY

Native closed-loop voltage scaling and real-time VR telemetry monitoring through dedicated hardware host controller ports throughout every test sequence.

API & WORKSPACE MANAGEMENT

REST API and Python SDK for full automation. Shared workspaces ensure cross-team test consistency and reproducibility.

TECHNICAL HIGHLIGHTS

POWER & LOAD

Peak Test Power	**1.5 kW**
Efficiency Analysis	**Integrated**
DC Load Continuous	**Up to 900 A**
Peak / Instantaneous DC Load	**Up to 1800 A**

TRANSIENT PERFORMANCE

Rise / Fall Time	**<25 ns**
Slew Rate	**72,000A/us**
AWG Resolution	**7.5ns**
Transimpedance Analysis	**Supported**

SENSING & MEASUREMENT

Voltage Sense Range	**20 x 4 Vsense**
External Voltage Inputs	**2 x 60 V**
Sense Resolution	**100 µV**
GPIO Control & Monitoring	**16 GPIO**

ABOUT PROGRANALOG

ProGrAnalog is a specialist test and measurement company focused exclusively on power delivery — developing patent-protected hardware and software solutions that give semiconductor and system engineering teams the speed, accuracy, and insight to build better power delivery designs, faster.

Trusted by leading chip designers and system integrators, ProGrAnalog's platforms are used across the full product development lifecycle, from pre-silicon power integrity modelling through validation, qualification and production

CONTACT

sales@prograna log.com

1-503-866-7666

www.prograna log.com

ProGrAnalog, 3901 SE Naef Rd, Portland, OR 97267, United States