Comprehensive power testing

Quarch Programmable Power Modules

Prove the reliability of your drives

- Prove your drives can cope with *any* conditions without loss of data—with a Quarch Programmable Power Module (PPM), you can simulate a huge range of possible power-loss scenarios.
- Measure both low sleep states *and* inrush as your drive charges—without having to change elements of your test system. PPMs allow you to measure a huge range of power, from 100µA to 9A.

Wide-ranging power-loss testing

It can be extremely difficult to test drives for all possible power-loss scenarios—we see evidence of this in Quarch Technology's laboratory on a regular basis:

Around 50% of drives we test fail to protect against a 1mS hard pull down to ground on the power rails.

This presents **problems for manufacturers, buyers and reviewers**, all of whom need to know that the drives they test can cope with *any* conditions without loss of data. Power loss, brown-out and voltage rail glitches are all a risk for data loss on NVMe devices, for instance.

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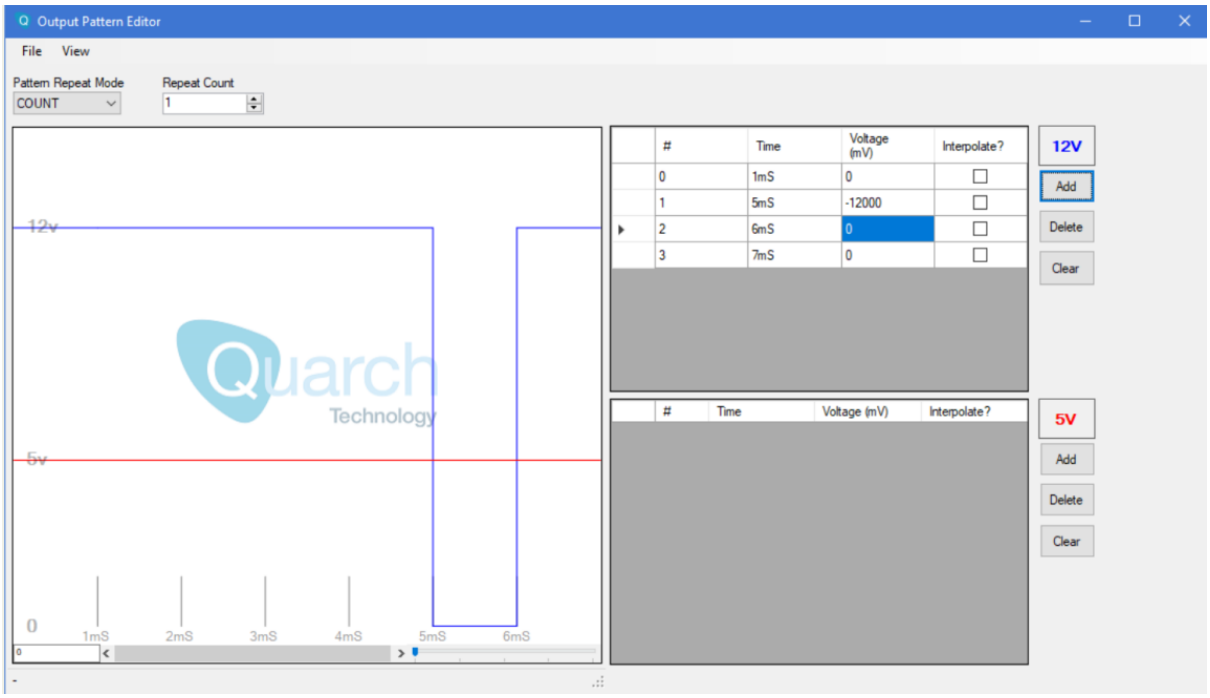
Quarch PPMs supply power and measure the amount they supply, allowing you to change the voltage level to the drive. **PPMs can create almost any type of voltage pattern, so you can test your drive comprehensively** by simulating a wide range of potential power failures.

You can simulate unexpected power loss, glitches, brown-out and more. Patterns can be created over a range of microseconds to minutes. The fast slew rate (~1V/uS no load) and optional active pull-down ensure you get exactly the output you need. This flexibility allows you to **create virtually any possible failure scenario for your drive**.

Example: a 1mS power loss test



Full power range testing

Quarch PPMs allow you to measure a huge range of power, from 100µA to 9A. You can measure both low sleep states and inrush as your drive charges—without having to change elements of your test system such as measurement probes.

The outputs of the module can vary from 0mV to rail nominal + 20% (14.4v and 6v), with a very fast slew rate and microsecond control resolution. Each output channel is fully independent, allowing almost any power scenario to be created. The maximum continuous output is 5A (per channel) and 60 Watts total.

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Testing low power sleep states

Accurate power-testing of the latest NVMe drives, with their ultra-low power sleep states, can be incredibly difficult. Our XLC (eXtra Low Current) and HD PPMs are capable of measuring power consumption accurately at below 100µA, providing a precise measure of sleep states.

Accurate charting of power state transitions

The 250KHz sampling rate and onboard RAM allow accurate capture of power state transitions and similar events. Optional external triggering allows synchronization with other devices, such as protocol analyzers.

Streaming mode allows you to record over USB or LAN to a host PC with almost unlimited storage, so you can record high resolution traces for long periods of time. **1TB traces over several days** have been successfully recorded.

Example: measuring a power state change in QPS

PPM technical specifications

- Summary technical specification (all PPMs)
- XLC PPM
- HD PPM

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Arrange a free evaluation or a quote

Depending on your requirements, we can normally supply you with free evaluation kit for a short period of time. To apply, or to arrange a quote, email sales@quarch.com or contact one of our skilled regional resellers.

Need more information?

- Get in touch with us for answers to your questions
- Find out about support available from our website
- Download more information from the list below.

Downloads

Datasheet – Programmable Power Modules

Key features of PPMs

Cost-effective power testing

Simple set-up & maximum flexibility – using your PPM

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