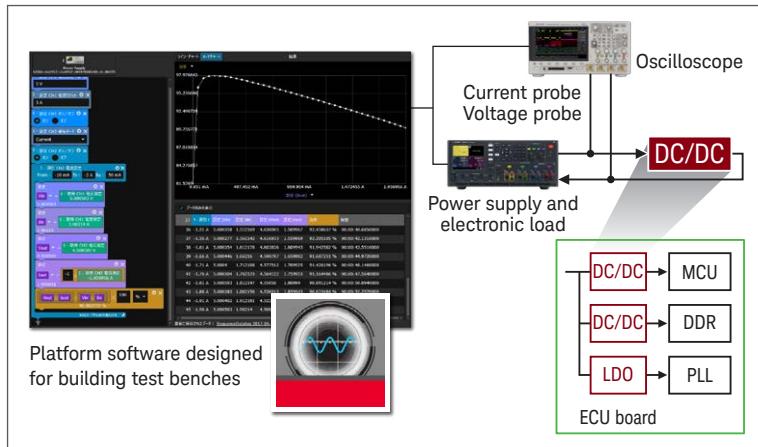


# [ECU Testing] Instantly Automate the Tests You Need Now

Examples of characterizing power supply ICs (DC/DC, LDO)



Building a test bench for characterizing ECUs by leveraging general purpose instruments and standard platform software designed for building test benches (an example of an application for characterizing power supply ICs)

**"I just want to automate simple tests"**

You can quickly automate your current individual test items, such as power conversion efficiency, load regulation, and transient response. What you need is BenchVue, platform software designed for building test benches, along with standard instruments used on an ECU test bench, such as power sources, oscilloscopes, DMMs, and switches. Automate your tests by just dragging and dropping Test Flow blocks in sequence on the BenchVue screen.

**Making it easy to build and maintain automated tests**

Why not stop customizing your test program every time for new DUTs and test items? BenchVue plays the roles of an instrument controller and a sequencer to execute tests, both of which are commonly required for any test bench. This not only integrates the I/O interfaces and allows access to an integrated technical support center for all products but also eliminates the need to make your own programs and associated problems.

**No need for human/knowledge resources**

BenchVue allows you to build automated tests in an intuitive manner without using any programming language. No need to learn any programming, so just start your tests right away. You will no longer have concerns about the automation of tests.

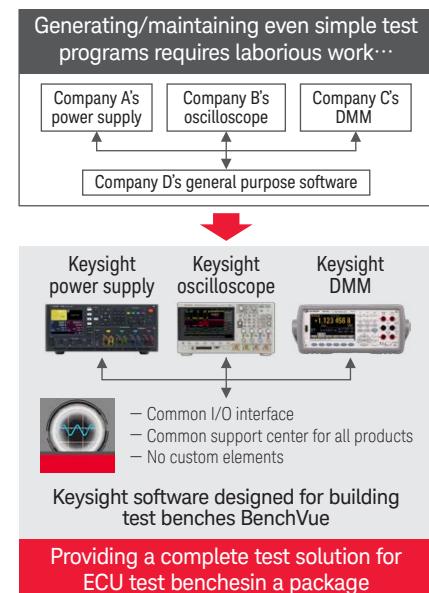
"We have neither the human resources nor knowledge for test program development."

"Thinking about how much test program development and maintenance would cost makes me hesitant."

"We just want to automate only what we're doing manually now."

"Automated tests will eliminate human error, reduce test costs, and improve our work efficiency. We know that, but..."

**Keysight solves such problems!**



An example of building a test sequence



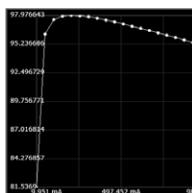
## Platform software designed for building test benches

BenchVue allows you to control instruments, such as DMMs, function generators, oscilloscopes, spectrum analyzers, electronic loads, power supplies, power meters, and data loggers, and has a built-in sequencer.



## Eliminating errors in settings/procedures for complicated measurements

Easily reproduce tests under identical conditions once such conditions have been saved by BenchVue software. BenchVue prevents you from restarting measurements due to human errors.



## Making it easy to repeat the same sequences

Simply automate reliability tests and characterization for selecting parts, which require enormous amounts of test data, and used to be done manually/visually. BenchVue will significantly improve your work efficiency.

## Typical configuration for building a test bench to characterize power supply ICs

Model Number	Description
N6705C	DC power analyzer mainframe
N6766A	Precision DC power module, 60 V, 17 A, 500 W * Used as the primary-side power supply
N6785A	2-quadrant source/measure unit for battery drain analysis 20 V / 4 A, 15 V / 5 A, 10 V / 6.7 A, 6 V / 8 A, 80 W * Works as a current load
MSOX3104T	Oscilloscope: 1 GHz, 4 channels
N2783B	100 MHz / 30 Arms AC/DC current probe
N2779A	Power supply for current probes
N2790A	100 MHz high-voltage differential active probe
BV9001B	BenchVue Complete Control Collection bundle



## N6705C DC Power Analyzer saves space and simplifies wiring

A single N6705C contains all the power supplies and electronic loads that are essential for ECU testing. Thus, the N6705C improves efficiency in the use of space on your test bench and reduces wiring errors.



## Sample sequences are also available

Keysight provides sample sequences used for load regulation, line regulation, and conversion efficiency for characterizing power supply ICs on a test bench. You can experience the benefits now.



## Want to fully automate all the test items?

If you need full automation of all measurement items, besides just a single measurement item, just contact us. Keysight also will customize test software for you.

## Comparison between BenchVue and Keysight custom software for supported measurement items

Measurement items/functions	BenchVue	Keysight custom software
Load regulation	Sample is available	Yes
Line regulation	Sample is available	Yes
Efficiency	Sample is available	Yes
Loss	User can configure	Yes
Ripple	User can configure	Yes
Input current	User can configure	Yes
Input voltage	User can configure	Yes
Output current	User can configure	Yes
Output voltage	User can configure	Yes
Load regulation (transient response)	User can configure	Yes
Line regulation (transient response)	User can configure	Yes
On/off control (transient response)	User can configure	Yes
Cranking (transient response)	User can configure	Yes
Simultaneous execution of all measurement items / selected items	No	Yes
Parameter variation	Can be set in a test sequence	Can be set on the setup screen / in an external file
Reporting	Can be set in a test sequence	Automatic report generation is supported

## Contact / support

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at:

[www.keysight.com/find/contactus](http://www.keysight.com/find/contactus)

