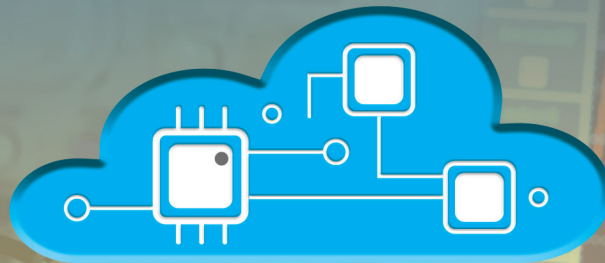


LAB ON THE CLOUD

Quick start guide



LAB on the CLOUD



renesas.com/labonthecloud

LAB ON THE CLOUD – 24/7 ONLINE TEST LAB

- Lab on the Cloud is a unique platform, where customers can test & monitor a solution remotely using the web.
- Renesas proof of Concept boards and solutions are available to the remotest designer and accessible 24/7.
- Solution boards, Oscilloscopes, Power sources and Power meters are connected over the cloud and can be monitored through live video streaming direct from the lab.
- The lab is fully autonomous. Users can drive system functionality and, control the equipment through an intuitive web graphical user interface (GUI).
- Mass market applications deployed include cloud based solution, low power Bluetooth, motor drive, electric vehicle system, air quality monitoring system, advance face, object & voice recognition and voice authentication systems

LAB ON THE CLOUD ADVANTAGES




- Helps optimize design process
- Shortens time to market
- Reduces design risk
- Boosts designers' confidence
- It is a free of cost tool, and no subscription required to access Renesas boards.
- Intuitive web graphical user interface, live camera streaming from Lab
- Access of documents & videos using library
- Request samples and timing product devices' part numbers
- Ask queries from board designers directly using discussion forum



GETTING STARTED

1

LAB ON THE CLOUD is a design tool of Renesas, it is found under the design resources.

RENESAS Search   

Products Applications **Design Resources** Sales & Support About

Design Resources >>

<p>Software & Tools</p> <ul style="list-style-type: none"> Boards & Kits Software & Drivers Development Tools 	<p>Partners</p> <ul style="list-style-type: none"> Preferred Partner Program (Systems) Renesas Ready Partner Network (Software) R-Car Consortium Renesas R-IN Consortium Renesas Synergy™ Partner Projects 	<p>Simulation & Design Tools</p> <ul style="list-style-type: none"> iSim:PE Offline Simulation Tool Lab on the Cloud PowerCompass Multi-Rail Design Tool PowerNavigator Timing Commander Clock Tree Design Service 	<p>Search</p> <ul style="list-style-type: none"> Cross-Reference Documentation & Downloads Parametric Search Software & Tools <p>Gadget Renesas Maker Resources</p>
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2

Click on Lab on the Cloud link to reach to the Lab on the cloud landing page.



LANDING PAGE



4

Link for the video and blogs related to Lab on the Cloud

Description about Lab On the Cloud

1

What is Lab on the Cloud (LOTC)?

Lab on the Cloud is a remote test lab that users can access 24/7 to explore their Proof of Concept boards and drive system functionality. There is over 40 Renesas Proof of Concept boards available for engineers, from applications spanning motor control, electric vehicle systems, air quality monitoring, and even advanced face, object, and voice recognition. The Proof of Concept boards and advanced test instruments are connected directly through the cloud and can be monitored through live video streaming. Engineers can leverage an easy-to-use graphical user interface to remotely control boards and equipment from anywhere. Lab on the Cloud will boost the designer's confidence in Renesas' solutions for real-world applications.

[Learn More About Lab on the Cloud](#)

Who can Access?

Lab on the Cloud is available for any myRenesas user to access. Save time and jump-start your design.

How to Access?

Select the Proof of Concept board you would like to explore, click Start Live Test, and start your interactive session with your selected solution.

2

List of the Boards Live at Lab on the Cloud. Click to know more.

Access the Labs

High Voltage Battery Management System This is a battery management solution, for a 20 - 28 cell battery. It has a daisy chain feature, RS-485 to external PC and takes command line interface commands.	Category: Power and Energy Sub: Battery Management Systems Main MCU: 48MHz Arm® Cortex®-M23 Entry Level General-Purpose Microcontroller Main Power Device: 700V AC/DC Regulator with Ultra-Low Standby Power and up to 2.5W Output Power Main Analog Device: Multi-Cell Daisy-Chainable Li-Ion Battery Manager
<input type="button" value="Start live test"/> <input type="button" value="More Information"/>	
Smart Color Sensing Solution for Pulse Oximeter This solution is for pulse oximeter designs, where R, G, B, W values are measured. The mobile app captures data through Bluetooth® Low Energy (LE) and is battery operated.	Category: IoT Applications Sub: Smart Health
<input type="button" value="Start live test"/> <input type="button" value="More Information"/>	
GreenPAK Advanced Development Board This solution highlights a versatile programmable NVM that integrates many functions into a single custom circuit reducing BOM and power consumption.	Category: Consumer Electronics Sub: Appliances
<input type="button" value="Start live test"/> <input type="button" value="More Information"/>	

3

Link of the Live Lab to test and evaluate the board. Click to reach to Lab.

LOGIN & ACCESS

Register with MyRenesas if it is a new user.

1

Enter the MyRenesas login credential.

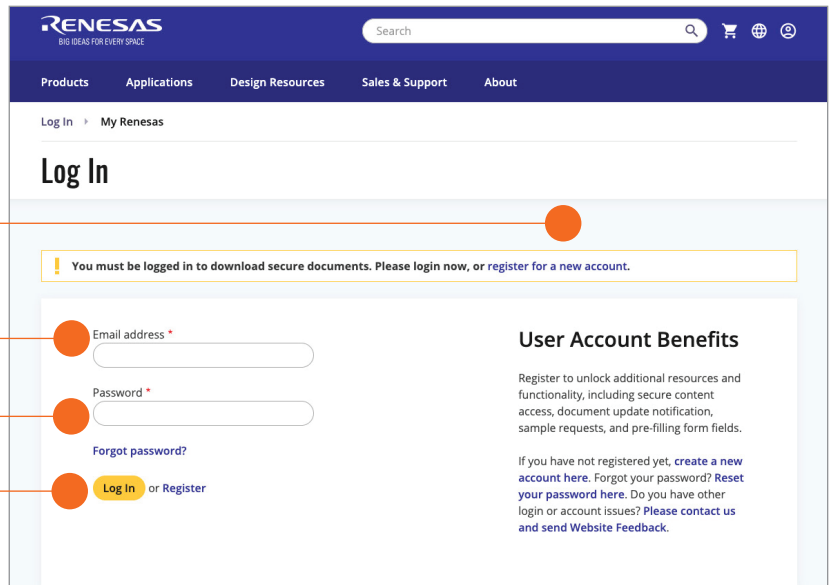
2

Enter the login password.

3

Click to login and access the requested lab.

4



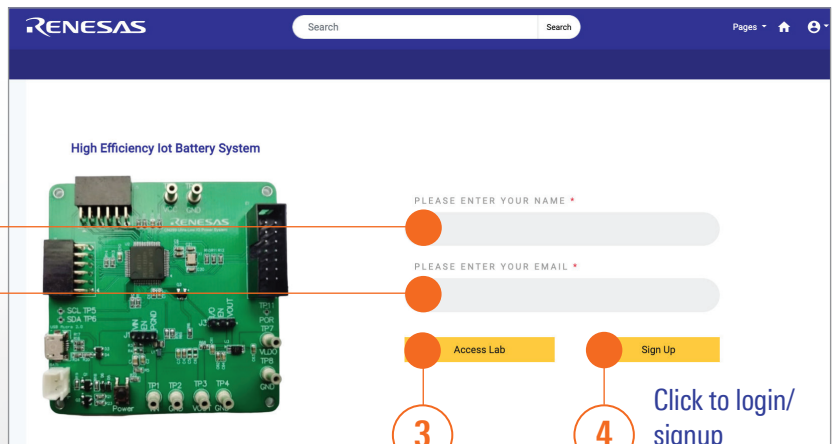
QUICK ACCESS PAGE: LIMITED ACCESS, NO LOGIN REQUIRED

Enter name

1

Enter communication mail ID

2



Click to access lab without login/signup
(Limited services)

3

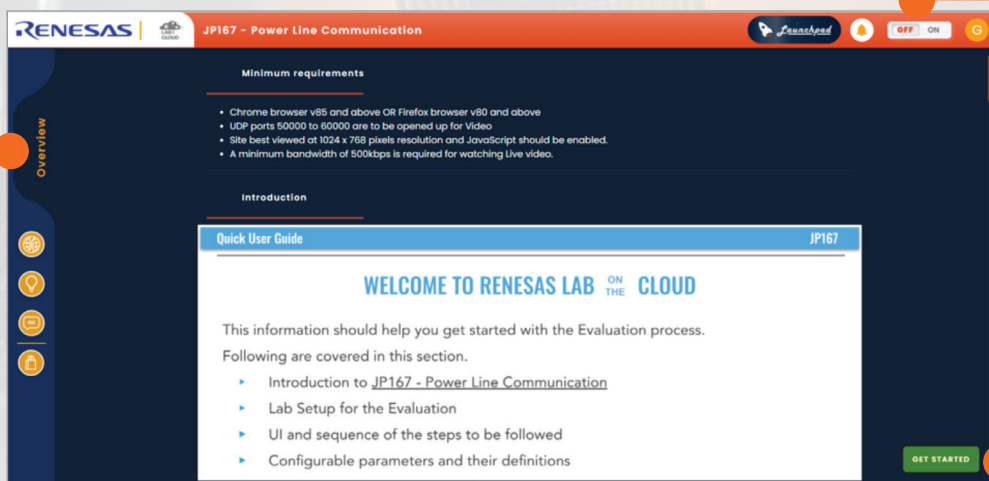
Click to login/
signup
(Full access
of features)

4

CONNECT TO LAB

Information
about board
& setup

2



Click to connect with lab

1

3

TEST & EVALUATE

6 Information panel: Dynamic information about the board and working



2 Process log: Internal processing information

3 Additional data output: oscilloscope

4 Lab setup: Easy access to understand the setup

1 Control panel for users to send command.

5 Live video streaming to see the output and performance

RESOURCES

Library: Find all the documents, videos related to the evaluation board.

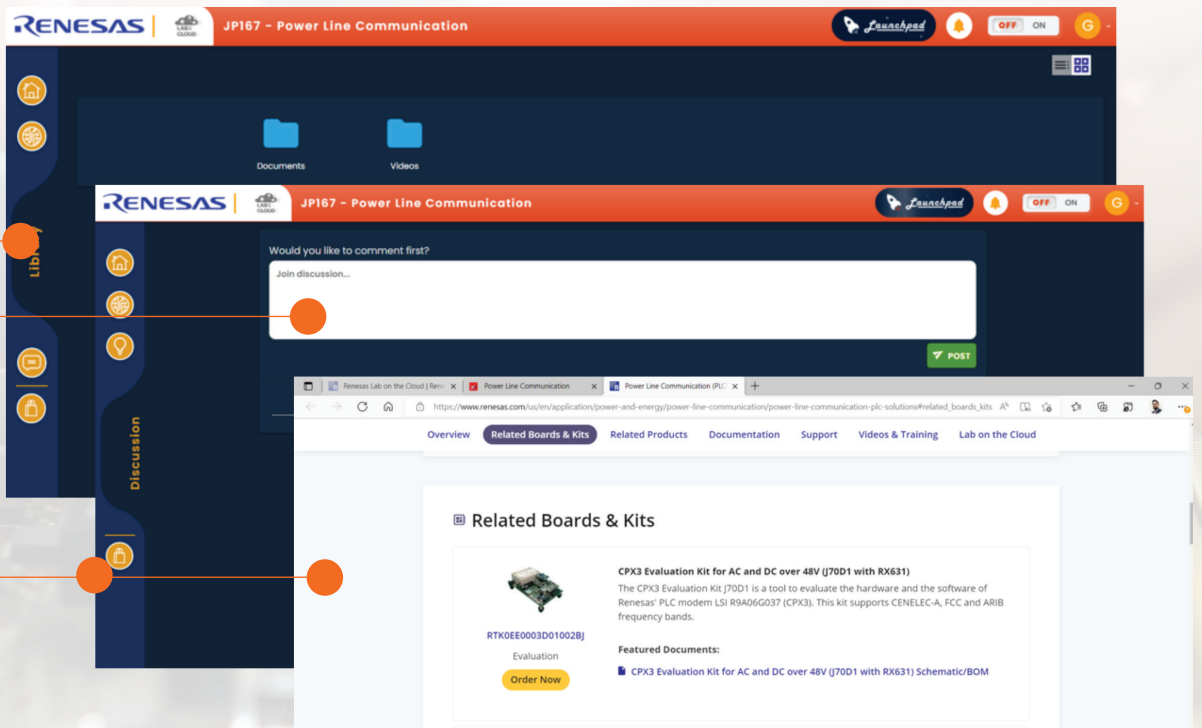
1

2

Discussion Forum: Users can post their feedbacks & queries, that can be addressed by the experts.

3

Sample request: Request for more information, boards and device samples.



BOARD TO LOOK OUT 1: HIGH VOLTAGE BATTERY MANAGEMENT SYSTEM

Features

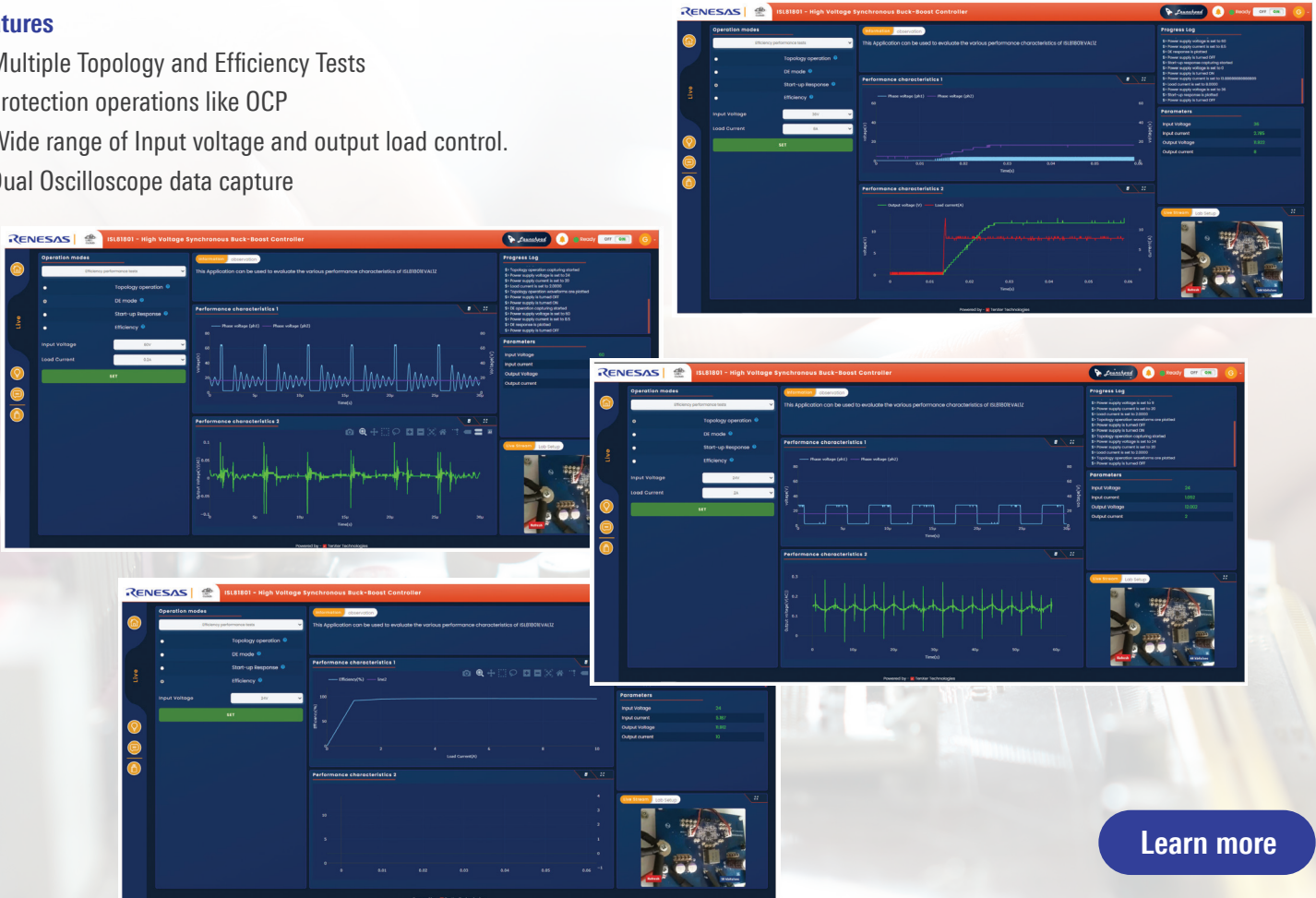
- Battery Charging, Discharging current Data
- Cell Balancing Data
- Battery Cell Balancing Temperature
- CLI Command from User to Control board- Set OCP limit



BOARD TO LOOK OUT 2: ISL81801 BUCK BOOST

Features

- Multiple Topology and Efficiency Tests
- Protection operations like OCP
- Wide range of Input voltage and output load control.
- Dual Oscilloscope data capture

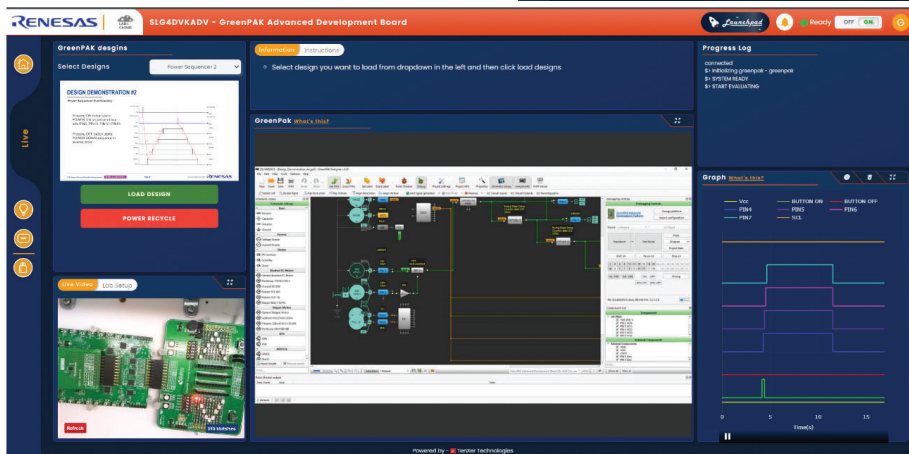
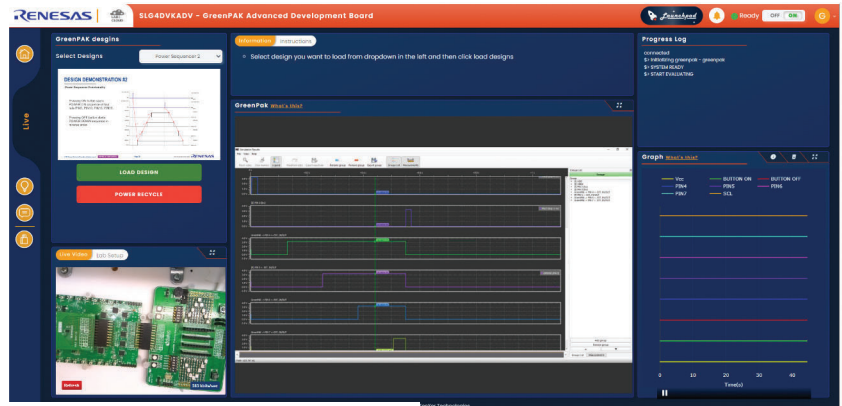


[Learn more](#)

BOARD TO LOOK OUT 3: GREENPAK ADVANCED DEVELOPMENT

Features

- Eliminates need for hardware and software
- Upload and Download the designs
- Multiple sample designs available for testing
- Simulation and emulation function available



For more information, visit: renesas.com/labonthecloud



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