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WEBINAR

How **Portable Power Analyzers** Are Transforming

EV Range and Efficiency Testing

Real-World Vehicle Measurement with PW4001

DATE

2026 **10 FEB**

TIME

2:00 PM
Singapore Time

Register Here

Speaker

Mr. Hidekazu Masuda

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Mobility Sector
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Panelist

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Application Engineer
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As EVs continue to evolve, evaluating vehicle range and energy efficiency is no longer limited to chassis dynamometer testing. Real-world driving tests, competitive benchmarking, and in-vehicle measurements are becoming essential to truly understand vehicle performance. However, engineers face several challenges in these environments:

a) Ensuring measurement accuracy outside the laboratory
b) Integrating vehicle ECU (CAN) data with power measurement data
c) Achieving regulatory-level confidence in real-world efficiency evaluation

In this session, we will also share a real-world driving benchmark of a popular production EV. By measuring power and energy during actual driving, we examine how real-world efficiency compares to catalog specifications, something many engineers are curious about but rarely get to see with real data. Using the portable power analyzer PW4001, this webinar explains how accurate and reliable power and energy measurements can be achieved both on the test bench and inside the vehicle.

Through practical examples and real measurement data, we demonstrate how modern EV testing workflows are changing , and how engineers can adapt their measurement approach accordingly.

What You Will Learn

- How real-world EV energy consumption compares with catalog specifications
- What power and energy measurements reveal when benchmarking a popular production EV during actual driving
- Why chassis dynamometer results alone are not sufficient to fully understand vehicle efficiency
- How to design reliable power and energy measurements for real-world driving tests
- Practical use of CAN voltage data combined with measured current for vehicle power calculation
- How to achieve regulatory-level measurement accuracy in in-vehicle testing using a portable power analyzer

Who Should Attend

- Professionals involved in material development and material evaluation
- Engineers responsible for motor and insulation design
- Professionals working in quality assurance, reliability evaluation, and testing
- Engineers involved in power electronics circuit design and evaluation

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Agenda

a) Trends in EV range and efficiency evaluation

b) From PW3390 to PW4001: What has changed and why it matters

c) Measurement challenges in real-world vehicle testing

d) Why CAN-based voltage data can work — and where its limitations are

e) Case study: Real-world driving benchmark of a production EV
- Energy consumption vs. catalog specifications
- Insights from measured power and regenerative energy

f) PW4001 measurement solutions for in-vehicle and real-world EV testing

g) Summary and key takeaways