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Wireless Powered Lab-on-Disc Platform for Measurements on the Spin

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Published in:

Book of Abstracts, Sustain 2017

Publication date:

2017

Document Version

Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):

Rajendran, S. T., Zor, K., Boisen, A., Hwu, E. T., Wang, J-H., Cheng, C-H., ... Huang, K-Y. (2017). Wireless Powered Lab-on-Disc Platform for Measurements on the Spin. In Book of Abstracts, Sustain 2017 [H-5] Technical University of Denmark (DTU).

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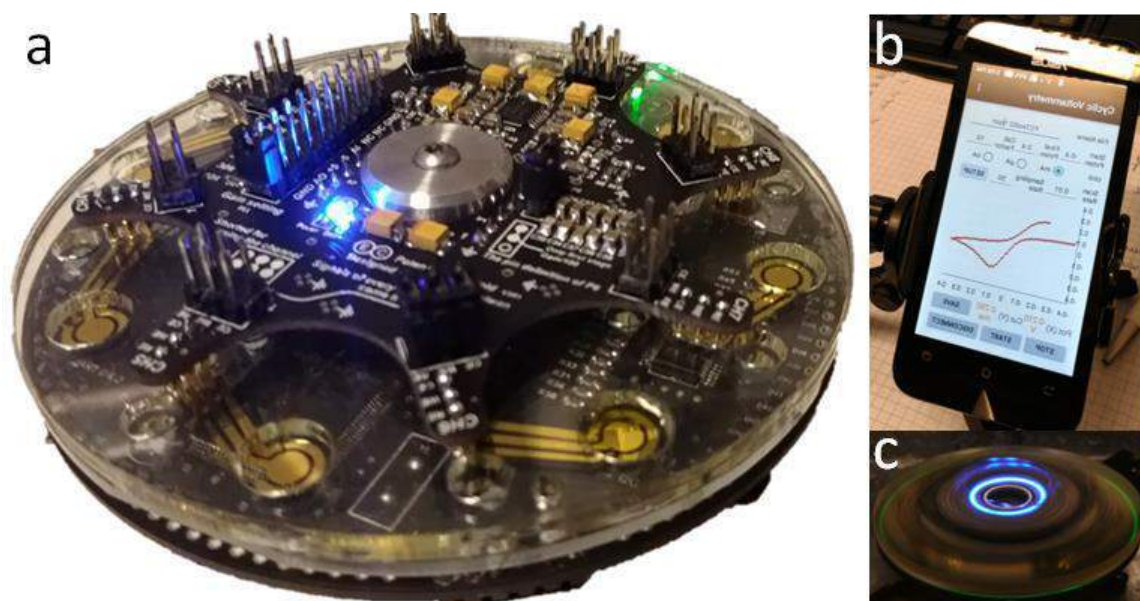
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We integrate Qi wireless power, Arduino microcontroller, Bluetooth signal transmission and lab-on-disc technique for developing a sample-to-answer biosensing platform (Fig. a). The wireless powered lab-on-disc platform (PloD) connects to an Android smartphone for real-time digital to analog converter (DAC) and analog to digital converter (ADC) control. Furthermore, the PloD is capable of measuring data while spinning, as shown in Fig. b and c.



The first application of the PloD is a potentiostat for electrochemical based biosensing [1], we have successfully measure Ferri Ferrocyanides Current-Potential curve while spinning from 0 to 3000 rpm. There are various lab-on-disc applications[2] can be carry out by the PloD platform for the future stand-alone diagnostics and healthcare systems.

Reference

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