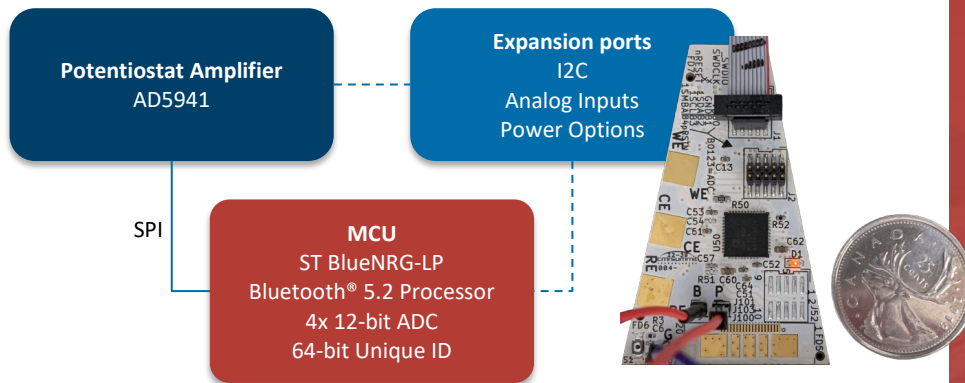# SwiftMote-Electrochemical Sensor Platform
Customizable IoT Design & Prototyping

Made in Canada

SwiftMote-Electrochemical is an open Bluetooth wireless sensor platform designed as a proving ground for novel research in electrochemical experiments that require free movement of the sensing platform..

Potentiostat Amplifier
AD5941

Expansion ports
I2C
Analog Inputs
Power Options

SPI

MCU
ST BlueNRG-LP
Bluetooth® 5.2 Processor
4x 12-bit ADC
64-bit Unique ID

About CMC

Reducing barriers to technology adoption for the benefit of Canada

CMC lowers barriers to research and development by creating and sharing state-of-the-art platforms enabling design, manufacturing, and test of microsystems. Our investments result in a network of highly qualified personnel of 10,000 academic participants and 1,000 companies in advanced technologies.

Multi-Project Wafer (MPW) services for prototyping through to high volume in microelectronics, photonics, and microelectromechanical systems (MEMS).

Custom fabrication: A network of university-based nanofabrication facilities and not-for-profit research organizations

Technology Platforms: Open-source hardware and software at Github/cmcmicrosystems

VIE **Start-up Support:** Low-cost services for SMEs at cmc.ca/VIE

What You Get

○ ST BlueNRG-LP processor, Bluetooth 5.x, 256kB of flash memory, 64-bit Unique ID, expansion port with 4x 12-bit ADC, and I2C.

○ Analog Devices AD5941 potentiostat amplifier with 16-bit ADC, 12-bit DAC and analog expansion port

○ Battery powered

○ Host PC application to send commands and record square-wave voltammetry data

○ User customizable – open PCB design including KiCad Project file schematics, layout, bill of materials

Applications

○ Electrochemical experiments involving square wave and cyclic voltammetry experiments.

○ Generic potentiostat interface, ADC expansion, for biomedical and gas sensing applications

○ IoT for AI at the edge, sensor fusion

Related Offerings

SwiftMote – the first iteration with a CC2640, ambient light sensor, temperature sensor and accelerometer.

Electronic Sensor Platform (ESP) for chemical sensing – an open JFET platform for converting trapped charges into a voltage signal using a functional material such as graphene, biomolecules, or quantum dots.

Silicon Interposer – for dense multi technology integration.

Connect with Us

For assistance or to recommend platform enhancements contact:

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