

## CEM102

# Analog front end (AFE) for very low power Continuous Glucose Measurements (CGM) and similar applications

## Product Overview

For complete documentation, see the data sheet.

CEM102 is an analog front end (AFE) specifically developed for continuous glucose monitoring (CGM) and other applications using amperometric measurements where sensing very low currents is required. With its small form factor and low power it enables further miniaturization and increase of battery life for many end applications. CEM102 is designed to be used together with onsemi RSL15 (Secure Bluetooth® 5.2 wireless MCU) there are several additional benefits from a system level such as operating at very low system power consumption and supply voltage. This includes operating the system at a wide 1.3 to 3.6 V supply voltage range. This facilitates powering the system from a single 1.5 V silver oxide battery or a 3 V coin cell. There is also a CEM102 evaluation board that in addition to CEM102 includes RSL15 together with sample code to set up and perform measurements with CEM102. This facilitates a jump start of system and FW development.

### Note)

The design materials (datasheet, firmware, documents for evaluation boards) are available under NDA. Contact sales via orange high-light "Email Sales" on top of the page.

RSL15 product page: [RSL15](#)

Please find below file before starting.

Downloads	Title	Description	Version	Date Up
<a href="#">Download</a>	Getting Started Materials of CEM102	How to access detailed information of CEM102	1.0	Dec-2
<a href="#">Download</a>	CEM102-EVB_Getting_Started_Guide	Start here for evaluation of CEM102	1.0	Dec-2

## Features

- Completely 2 channel solutions for electrochemical measurement(CEM102+RSL15)
- Support 1,2,3 or 4 electrodes
- Extremely low system current consumption
- High resolution ADC, several DACs for bias setting and factory trimmed system
- Detection for abnormal sensor conditions and Host processor wake up
- Small footprint area


## Applications

- Electrochemical measurement systems

## End Products

- Continuous Glucose Monitor
- IoT sensor devices
- Wearables

# Part Electrical Specifications

Product	Status	Compliance	Numb er of Chan nels	VDD Min (V)	VDD Max (V)	Idd (uA)	T <sub>A</sub> Min (°C)	T <sub>A</sub> Ma x(°C)	Packa ge Type	Case Outlin e	MSL Type	MSL Temp (°C)	Conta iner Type	Conta iner Qty.
CEM102	Active, New		2	2.375	3.63	3.5	-10	70	WLCS P25 1.88x 1.84x 0.30, 0.35P	567L A.PDF	1	260	REEL	5000