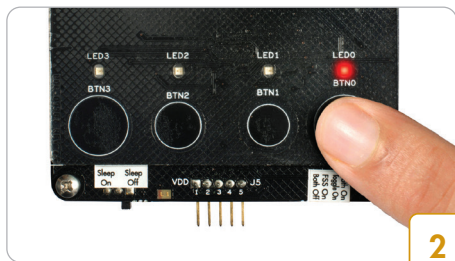# CapSense® MECHANICAL BUTTON REPLACEMENT (MBR)

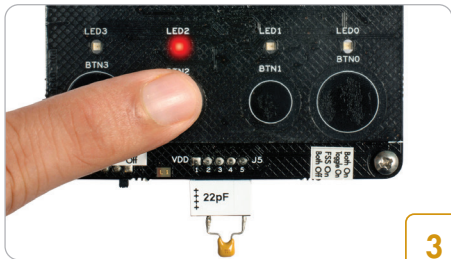

1

- Insert the provided batteries into the battery holder on the reverse of the kit.
- Keep the kit on a stable surface and touch the power button*; the power LED will glow.
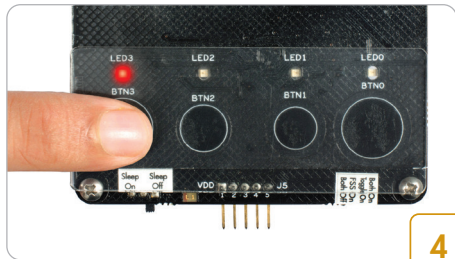- Ensure SW1 is in the **Toggle On** position and SW2 is in the **Sleep Off** position.

2

- Turn off and turn on the kit by touching the power button twice.
- Touch any button; the corresponding LED will glow.
- Touch the same button again; the corresponding LED toggles off.
- Repeat with different buttons.

3

- Add parasitic capacitance to BTN2 by inserting the provided 22 pF external capacitor to connector J5, with the marking facing up.
- Turn off and turn on the kit by touching the power button twice.
- Test BTN 2; SmartSense™ Auto-tuning compensates for the change in capacitance.
- Repeat with other external capacitors; BTN 2 works with up to 40 pF of parasitic capacitance.
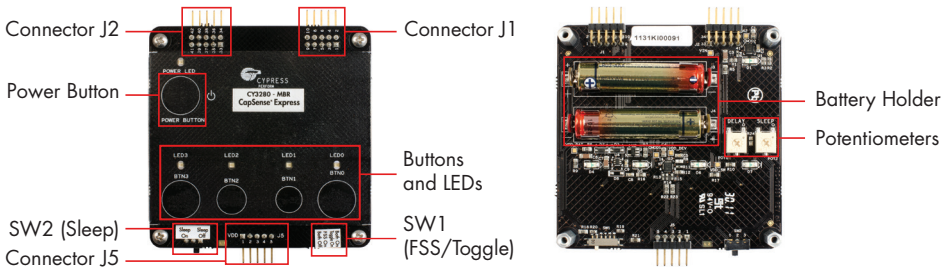

4

- Remove the external capacitor.
- Place the 1 mm overlay over the buttons.
- Turn off and turn on the kit by touching the power button twice.
- Test the buttons; SmartSense Auto-tuning compensates for the change in overlay thickness.
- Repeat with the 3 mm overlay.

Note* : The power button is set to be less responsive than the other buttons to prevent false starts of the kit. Once the kit is powered on, the power button is more sensitive to enable easy power cycling.

CAPSENSE® MECHANICAL BUTTON REPLACEMENT (MBR)

Connector J2
Connector J1
Power Button
SW2 (Sleep)
Connector J5
Buttons and LEDs
SW1 (FSS/Toggle)
Battery Holder
Potentiometers

Connector J1		Connector J2	Connector J5
Pin 1 – SCANRATE/SLEEP	Pin 7 – GPO0	Pin 33 – ARST	Pin 1 – VDD
Pin 2 – XRES	Pin 8 – GPO1	Pin 35,36,39 – GND	Pin 2 – GND
Pin 3 – DELAY	Pin 9 – GPO2	Pin 41 – VDD	Pin 3 – XRES
Pin 4 – TOGGLE/FSS	Pin 10 – GPO3	Pin 34,37,38,40,42 – NC	Pin 4 – Button Sensor BTN1
Pin 5, 6 – GND			Pin 5 – Button Sensor BTN2

- Power may be supplied in 3 ways: through the on-board battery supply, connector J2 or connector J5. Recommended power through J2 is 2 V to 3.8 V.
- It is not recommended to connect power to connector J5 when the kit is powered from connector J2 or the battery.
- BTN1 and BTN2 are connected to pins 4 and 5 of connector J5 for SmartSense evaluation; touching these pins may trigger false touches.

SW1 Position	Toggle	FSS*
Both On	ON	ON
Toggle On	ON	OFF
FSS On	OFF	ON
Both Off	OFF	OFF

SW2 Position	Feature
Sleep Off	Using pin 1 in connector J1, an external host controller can enable the deep sleep mode.
Sleep On	Deep sleep mode cannot be enabled by an external host controller using pin 1 in connector J1. ScanRate/Sleep input of CapSense® controller is controlled by the SLEEP Potentiometer.

- *FSS stands for Flanking Sensor Suppression, a CapSense technique that ensures only the first button touched is registered.
- Power must be cycled whenever a switch setting is changed.
- For more information about the connector pins, switch features and potentiometers, please refer the User Guide.

For the latest information about this Kit, and to download the User Guide, Kit Software and Hardware files, visit: www.cypress.com/go/CY3280-MBR