PSOC™ Edge E84 Evaluation Kit

Design and develop next generation Machine Learning edge devices

The PSOC™ Edge E84 Evaluation Kit enables applications to use the PSOC ™ Edge E84 Series Microcontroller (MCU) together with multiple on-board multimedia, Machine Learning (ML), and connectivity features including custom MIPI-DSI displays, audio interfaces, and AIROC™ Wi-Fi and Bluetooth® combo-based connectivity modules.

The PSOC™ Edge E84 MCUs are based on high-performance Arm® Cortex®-M55 including Helium DSP support, an Ethos-U55 NPU, and a low-power Arm® Cortex®-M33 paired with Infineon's ultra-low power NNLite hardware accelerator. They integrate 2.5D graphics accelerators and display interfaces, while featuring always-on acoustic activity and wake-word detection, efficient HMI operations, and extended battery life. The PSOC™ Edge E84 incorporates both the graphics and the advanced ML capabilities, and boosts SRAM footprint to a total of 6 MB for the most demanding edge applications, providing high-integration to reduce the bill of materials (BOM) while still providing full flexibility in an energy-efficient MCU.

The evaluation kit carries a PSOC™ Edge E84 MCU on a SODIMM-based detachable SOM board connected to the baseboard. The MCU SOM also has 128 MB of QSPI Flash, 1GB of Octal Flash, 128MB of Octal RAM, PSOC™ 4000T as CAPSENSE™ co-processor, and on-board AIROC™ Wi-Fi and Bluetooth® combo.

The baseboard has M.2 interface connectors for external radio modules based on AIROC™ Wi-Fi and Bluetooth® combos and external memory. It also features an on-board programmer/debugger (KitProg3), ETM/JTAG/SWD debug headers, a custom display capacitive touch-panel connector, RPi compatible MIPI-DSI and a MIPI-DSI custom display connectors, analog and PDM microphones, a headphone connector, a speaker, USB host Type-A and USB device Type-C connectors, an RJ45 Ethernet connector, M.2 (B-key) memory and M.2 (E-key) radio interfaces, Infineon's Shield2Go interface, MIKROE's mikroBUS™-compatible headers, a 6-Axis IMU sensor, a 3-axis magnetometer, a microSD card holder, CAPSENSE™ buttons and slider, user LEDs, and user buttons.

This evaluation kit helps accelerate time-to-market by simplifying application design, with a robust ecosystem, comprehensive documentation, and full access to Infineon's ModusToolbox™ software, including its DEEPCRAFT™ AI Suite integration.

For more Information visit PSOC™ Edge E84 Evaluation Kit

Kit Contents

- PSOC™ Edge E84 base board
- PSOC™ Edge E84 SOM module
- 4.3in capacitive touch display and USB camera module
- USB Type-C to Type-C cable
- Four jumper wires
- Two proximity sensor wires
- Four stand-offs for Raspberry Pi compatible display
- Quick start guide

Kit Components

- Complete out-of-the-box experience
- Ease of use with ModusToolbox™ and DEEPCRAFT™ AI Suite support
- Code examples showcasing Machine Learning capabilities
- Onboard AIROC™ Wi-Fi and Bluetooth® combo
- PSOC™ 4000T as CAPSENSE™ co-processor
- Analog and PDM microphones, a headphone connector and an onboard speaker
- 6-axis accelerometer and gyroscope IMU and a 3-axis magnetometer
- Connectors for high-speed interfaces, as Ethernet and USB
- MIPI-DSI display interface
- KitProg3 onboard SWD programmer/debugger
- M.2 (B-key) for external memory
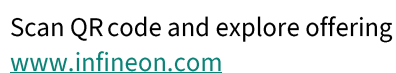- M.2 (E-key) for radio connectivity modules

Block diagram

Part Numbers

PN	Kit	Function
KIT_PSE84_EVAL	PSOC™ Edge E84 Evaluation Kit	General purpose evaluation kit for PSOC™ Edge with full functional integration of all interfaces

Key Applications

Smart Home	Smart thermostats, smart locks, smart home appliances
HMI	Appliances, Industrial HMI, factory automation
Wearables	Fitness watches, AR/MR/VR glasses & accessories, audio accessories
Robotics	Vacuum cleaners, vacuum robots, service robots, industrial robotics

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