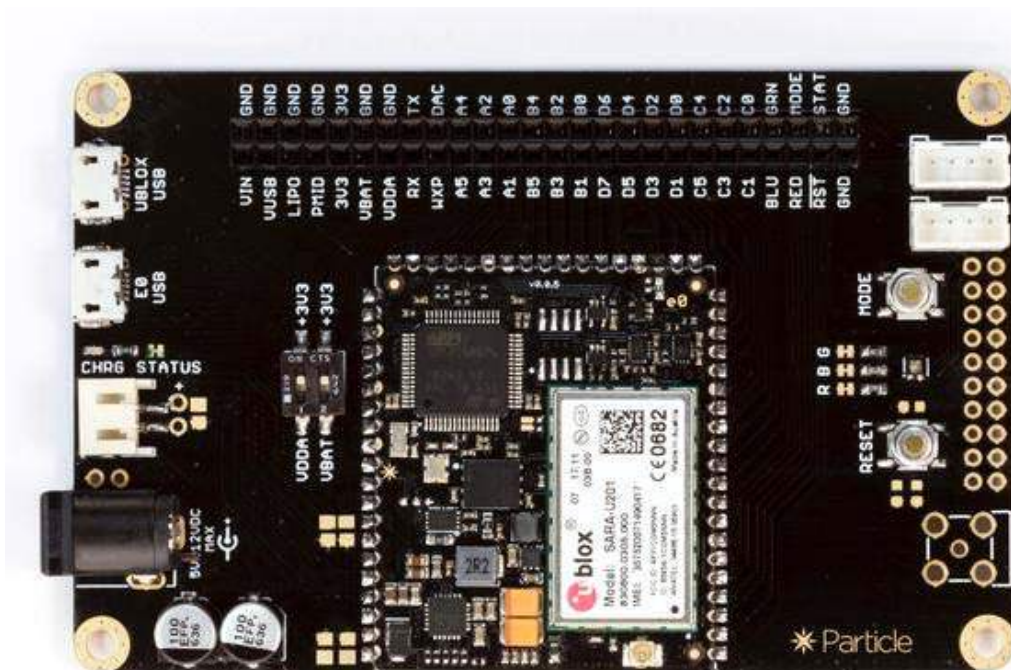# E Series Evaluation Kit (Global)

The **E Series Evaluation Kit** is the best way to get started with the **E Series**, Particle's newest product family of industrialized cellular IoT modules. The Evaluation Kit includes an E Series Evaluation Board with 2G/3G global connectivity, a sample IoT sensor (temperature), and all the cellular accessories you need to build your first industrial-grade proof-of-concept on the Particle platform.

Excited to build your first prototypes with E Series modules? Add three spare E310 modules (2G/3G connectivity with global support) to your E Series Evaluation kit using the dropdown above.

E Series Evaluation Kit Contents

All E Series Evaluation Kits include the following:

- E Series Evaluation Board (see below for details)

- 2,000 mAh Li-Po battery

- Taoglas Penta-band antenna (u.FL)

- USB Micro cable

- Grove temperature sensor

- SMA to u.FL adapter for connecting external SMA antennas

E Series Product Features

Particle's E Series is a new family of production-grade 2G, 3G, and LTE-enabled hardware that vastly reduces the cost and complexity of deploying cellular-connected IoT solutions at scale.

All E Series modules include the following features:

- *Embedded SIM card*, which resists vibration, corrosion, and mechanical failure

- *Surface-mountable design*, for PCB assembly in mass-production

- *Industrial temperature range* from -20 to 85C for deployment in hostile environments

- *Future-compatible pinout* with support for 2G and 3G today and a seamless transition to LTE M1 and NB1 in 2018

- *Fully certified design* virtually eliminating the cost and complexity of RF and carrier compliance

- *Built-in compatibility* with Particle's development tools, messaging platform, and device management console

E Series Evaluation Board Features

The E Series Evaluation Kit contains a breakout board which provides easy access to all the pins and peripherals available on all E Series module variants. The Evaluation Board includes:

- Physical USB access for flashing and serial communications

- Li-Po battery connector for connecting external batteries

- Power barrel jack connector for external power

- MODE and RESET buttons

- Charge and status LEDs to appreciate device state at a glance

The E Series Evaluation board contains a soldered E310 module, which supports worldwide 2G and 3G connectivity and can be configured into a 2G only mode. All E Series variants will come in mass production quantities and will be available for purchase through our Wholesale Store in late October.

Specs:

o STM32F205 ARM Cortex M3 microcontroller

o 1MB Flash, 128K RAM

o Cellular modem: U-Blox SARA U-series (3G Global with 2G fallback)

o 36 pins total: 28 GPIOs (D0-D13, A0-A13), plus TX/RX, 2 GNDs, VIN, VBAT, WKP, 3V3, RST

o Board dimensions: 36mm x 43mm

Contents:

o Global E310 module mounted on an evaluation board

o 3 Global E310 spare modules (with additional purchase)

o Grove temperature sensor

o 3 months of Particle's 1MB monthly data plan (processed upon SIM activation)

o Li-Po battery (2000mAh)

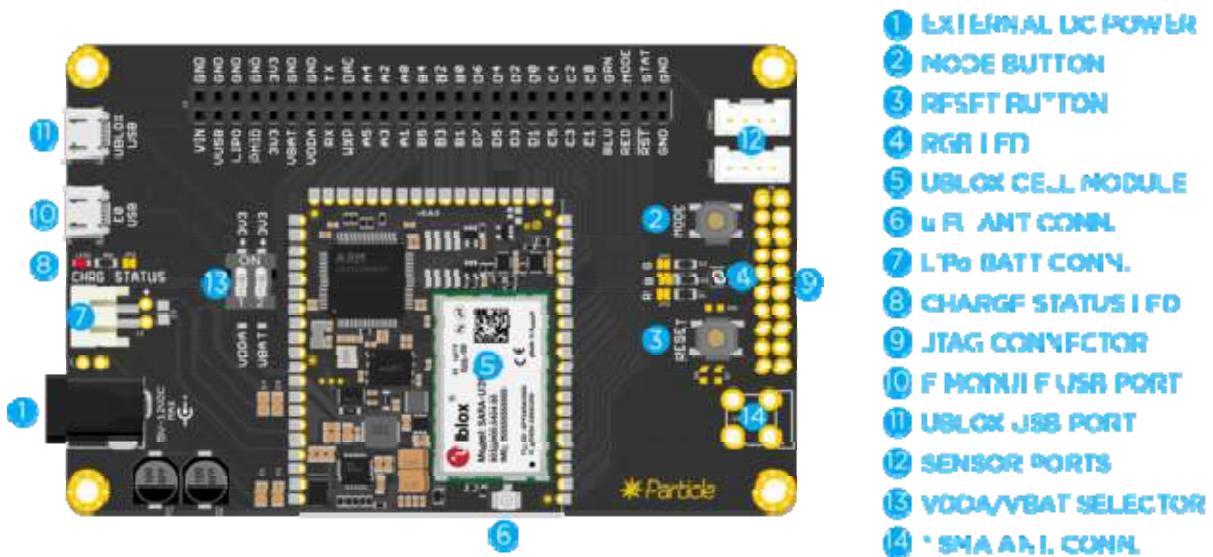o Pinout reference card

o Taoglas Penta-band Cellular Antenna

Basic Data Charges*:

o Particle's 1MB monthly data plan:

- 3 months included with kit

- $2.99/month for 1MB (thousands of messages)

- No contracts, cancel anytime

o $0.99/each additional MB

Data rates vary by country and by data usage, see here for full pricing and bulk discounts.

** Continent compatibility is **simplified** and exceptions exist. Please be sure to check the full list of compatible countries for the location in which your product will be deployed.

1. EXTERNAL DC POWER
2. MODE BUTTON
3. RESET BUTTON
4. RGB LED
5. UBLOX CELL MODULE
6. u.FL ANT CONN.
7. LiPo BATT CONN.
8. CHARGE STATUS LED
9. JTAG CONNECTOR
10. E MODULE USB PORT
11. UBLOX USB PORT
12. SENSOR PORTS
13. VDDA/VBAT SELECTOR
14. SMA ANT. CONN.