Technical Specification

Physical and Power Supply: The Surfact Emma Smart Tracker is a small and lightweight device, roughly the size of a standard hockey puck. It can operate in extremely broad temperature ranges, making it suitable for use in almost any environment. The unit is powered by three AA batteries and consumes between 0.01 and 500mA of current depending on the operation being performed. With deep sleep mode it is capable of more than 50 000 transmissions in total.

Communication: This device uses cellular 4G/5G/LTE for data communication, specifically Cat-M1 and NB-IoT channels, which are specially designed for IoT devices that require low bandwidth and long battery life. It also has a GPS receiver and supports GNSS, providing global coverage for positioning, but most of the time triangulation is used for positioning. Uses less battery and will work wherever there is signal.

Sensor Measurement Range: This device has a variety of built-in sensors. It can measure temperature with high accuracy, humidity, barometric pressure, acceleration, and light. These data can be used for a variety of applications, such as monitoring the environmental conditions at a specific location.

Recycled Ocean Plastic: The unit is made from recycled ocean plastic, which is an important step towards reducing the negative environmental impact of plastic waste. This helps to support sustainable production methods and contribute to a circular economy.

Robotic Production: This device is assembled from only 3 parts with robotic production. This helps to reduce manufacturing costs, improve production efficiency, and ensure consistent quality.

Edge Computing and Predictive Alerting: The Emma Smart Tracker is designed to always be on and uses edge computing to process data locally. This reduces the need to send data to the cloud for analysis, which can improve response times and reduce bandwidth usage. The device's data can be used to alert users before things go wrong, which can be very useful in applications that require early warning of potential problems.

- **Physical**
    - BHD: 90x28x90 mm
    - Weight: 165 grams
    - Operating temperature: -40 - +85℃
- **Supply current**
    - Battery operated (3 x AA(LR6) batteries)
    - 3.0 - 5.5v, 0.01-500mA (depending on operation)
- **Communication**
    - Cellular 4G/LTE (Cat-M1/NB-IoT channels 1, 3, 8, 20, 28)
- **GPS receiver**
    - GNSS (GPS, QZSS) 1575 MHz
- **Sensor measurement range**
    - Temperature (-40 - +85℃ ±0.3℃, 0 - +60℃ ±0.2℃)
    - Humidity (0-100%RH ±1.8%)
    - Barometric pressure (300-1100 hPa)
    - Accelerometer (0.001-16G)
    - Light sensor