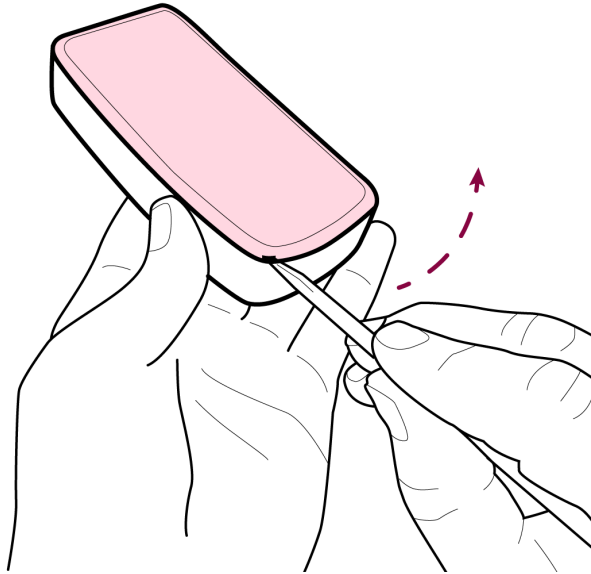


Efento HC7 NB-IoT - using the device

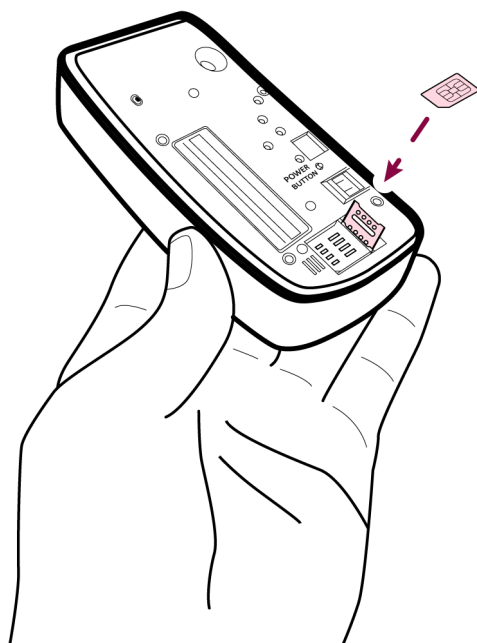
Powering on the sensor

To power on the Efento HC7 NB-IoT sensor and initiate its startup:

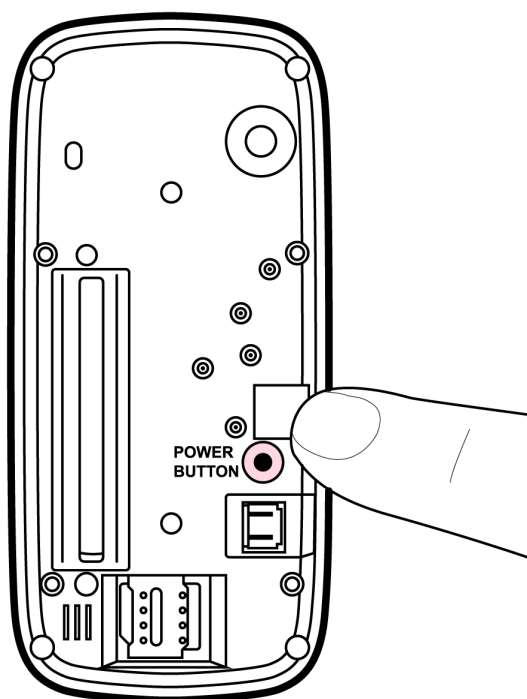
1. **Access the Sensor:** Use a flat screwdriver or similar tool to lift and open the sensor's back lid.



2. **Insert SIM Card:** Place the SIM card into the holder, ensuring the chip side is facing down.



3. **Power On:** Press the button labeled "Power button"



4. **Startup Sequence Observation:** Upon power-on, the sensor will initiate its startup sequence. The LED behavior will first follow the pattern described in the "LEDs" section under the "Power on state" and subsequently transition to the patterns described under the "Normal state".

Turning off the sensor

To power OFF the sensor, press and hold the button labeled "Power button" for 7 seconds. The device will begin the shutdown procedure, which involves:

- Sending the unsent measurements to the server
- Logging off from the cellular network

After these steps are completed, the red LED will illuminate for 1 second, and the device will turn off.

Triggering transmissions to the server

To initiate the transmission to the server, briefly press and release the button labeled "Power button." Do not hold the button down.

Tamper switch

The device incorporates a phototransistor on its PCB, functioning as a tamper switch to detect unauthorized opening of the back lid. When the device's back lid is opened, a tamper alert is immediately triggered, resulting in two actions:

1. **Immediate Server Communication:** The device instantly contacts the server, sending a data frame that includes a flag indicating the lid has been opened.
2. **BLE Advertisement Update:** Tamper information, including the event's timestamp, is included in the BLE advertisements. This allows the mobile application to notify the user that the device has been tampered with.

Once the lid is closed, the device sends an update to the server, and the status in the BLE advertisement changes. The event log, recording the timestamp of when the device was opened, remains accessible via the mobile app.

LEDs

LED module works in 2 states:

- Power on state
- Normal state

In 'Power on' sensor behaves as follows:

- Powering on - both LEDs blink with 1Hz frequency
- Then, if selftest was successful green LED turns on for 3 seconds
- Or, if selftest was unsuccessful red LED turns on for 3 seconds

- Next, until first communication LEDs flash alternately (Following pattern every 3 seconds: 40ms green|300ms break|20ms red)
- If the first communication fails, a red LED blinks every 4 seconds
- If the first communication succeeds, a green LED blinks every 4 seconds
- After 5 minutes from the first communication or 30 minutes from power on go to a Normal state

In 'Normal' sensor behaves as follows:

- Green led blinks with configured frequency if the sensor is ok
- Red LED blinks with configured frequency if the sensor has errors
- Green led blinks twice with a 300 millisecond break on new measurement
- Green led blinks three times with a 300 millisecond break on transmission

In 'Normal' state following parameters are configurable:

- Period (5-600 seconds in 5 seconds resolution) of flashing red LED (**15 seconds by default**)
- Period (5-600 seconds in 5 seconds resolution) of flashing green LED (**90 seconds by default**)
- Time from entering the normal state, after which the functionality is turned off (0-240 minutes in 1 minute resolution, or always turned on). Separate for each functionality:
 - flashing red led on a communication problem (**Always turned ON by default**)
 - flashing red led on a sensor problem (**Always turned ON by default**)
 - flashing red led on a low power (**Turn OFF after 20min by default**)
 - flashing of green led on a measurement (**Turn OFF after 20min by default**)
 - flashing of green led on a transmission (**Turn OFF after 20min by default**)
 - flashing of green led in case no error (**Turn OFF after 20min by default**)
- Blink time (20-1000ms in 5 ms resolution) (**40 ms by default**)

Warnings

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.