# NXP EdgeLock™ SE050

Use Case: *Late-Stage Parameter Configuration*

Quickly and securely configure generic IoT devices without powering them on. Simply tapping a standard NFC-enabled smartphone or reader to the unpowered device transfers final settings, either in the factory, before shipment, or in the field, during deployment.

APPLICATIONS

Home Appliances
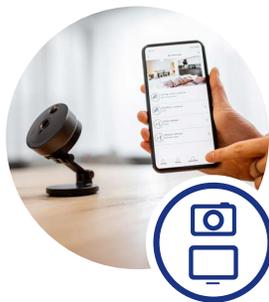
Consumer Electronics

Lighting Management Systems

Industrial

CHALLENGE

Today's manufacturers of IoT devices need the flexibility to address varying customer requirements while maintaining scalability. To meet the demands of a specific market, for example, they may want to pre-configure a device for a particular setup, install a specific set of network parameters, enter log data, or prepare the device for use in a given geographical region.

Late-stage parameter configuration lets manufacturers or end customers add specific settings, keys, or data to a generic

IoT device, after production and assembly, making it easier to produce at scale while servicing different use cases and niche markets. Before turning on their new device – be it a home gateway, an IP camera, or a sensor - customers can load in the keys and enter or edit use case specific parameters (e.g. IP addresses, devices IDs, etc.) needed to operate with the onsite network.

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SOLUTION

The EdgeLock SE050 gives manufactures a quick, secure way to support late-stage parameter configuration, by making it possible to use a standard NFC smartphone or reader* to load settings with a simple tap to the unpowered device. The smartphone or reader becomes the graphical user interface to the device, so it's easy to make selections, finalize settings, and transfer parameters.

In the factory, multiple profiles can be managed with ease, and specific parameters can be transferred to generic devices with a simple tap. In the field, one-touch customization enhances the end-user experience and saves time during installation.

The EdgeLock SE050 is a tamper-resistant secure element that includes an ISO/IEC 14443-compliant contactless interface which can be used to wirelessly write data into the EdgeLock

SE050's secure file system. The EdgeLock SE050 is powered by the NFC smartphone or reader and offers secure connection establishment based on the SCP03 protocol. This connection can be between the EdgeLock SE050 and either the NFC device or an secure backend service. Once the use case specific credentials and parameter settings have been downloaded into the EdgeLock SE050's secure file system, the IoT device can be turned on. The host processor will then read the required parameters from the EdgeLock SE050 and establish the use case specific communication link(s).

BLOCK DIAGRAM

Host controller EdgeLock SE050

IoT device

SCP03

NFC smartphone or reader

SCP03

Backend service
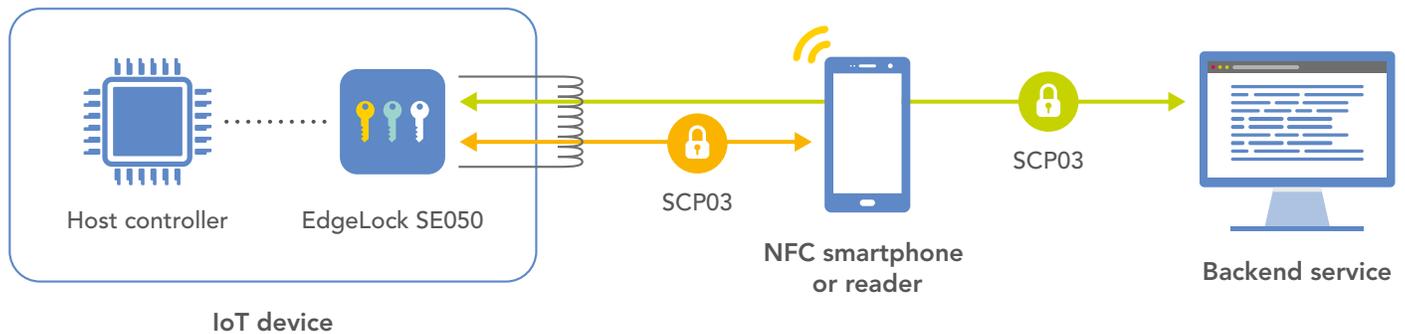
LEARN MORE

The NXP Design Community site offers helpful hints, easy-to-follow how to's, and detailed application notes for use with the EdgeLock SE050. The EdgeLock SE050 Product Page links to detailed specs, designs tools & software, training & support, and more.

▸ NXP Design Community
https://community.nxp.com/community/identification-security/secure-authentication/people

▸ EdgeLock SE050 Product Page
www.nxp.com/SE050
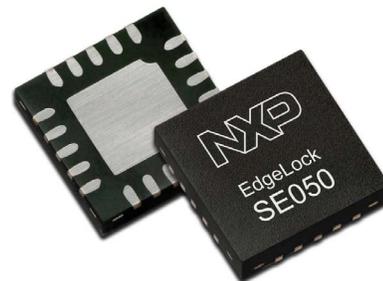
* Interoperability testing has to be performed for the specific device and set-up.

Find more information on **www.nxp.com/SE050**

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