

# FleX-NFC™ Starter Kit Datasheet



## Overview

The FleX-NFC Starter Kit is the industry's first physically flexible IC starter kit to support NFC communication. The FleX-NFC Starter Kit provides an out-of-the-box demonstration of FHE feasibility and will enable you to create your own Flexible Hybrid Electronics (FHE) systems.

This Starter Kit and future production of your FHE product ideas are fully supported by the American Semiconductor flexible technology integration team for design and manufacturing. The Starter Kit includes:

- 3 FleX-NFC Flexible Hybrid Electronics (FHE) Systems
- 5 FleX-NFC Semiconductor-on-Polymer (SoP) Flexible ICs
- 6 FleX-NFC Aluminum Antenna Inlays



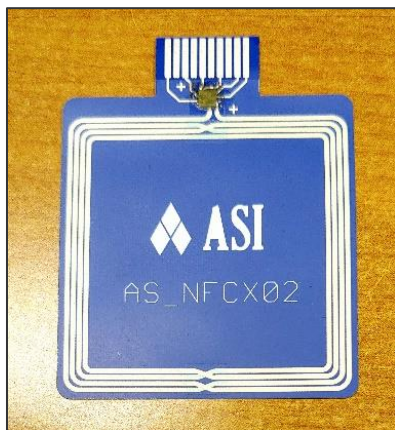
Additional documentation, videos and example code are available for download at <http://www.americansemi.com/FleX-NFC-Starter-Kit.html>.

## FleX-NFC FHE Systems

Each FleX-NFC Starter Kit FHE System includes:

- AS\_NHS3100P.fxd FleX-NFC ultra-thin, flexible silicon IC
- Multi-layer printed silver antenna on a PET substrate
- Zero Insertion Force (ZIF) programming header for access to all FleX-NFC pins and connection to other systems or power

The FleX-NFC starter kits are delivered ready to accept programming wirelessly using an NFC enabled Android phone. With a recent upgrade to iOS 13, newer iPhones (iPhone 7 and later) have the capability to support some wireless programming via NFC. However, to date American Semiconductor has not validated this iPhone wireless programming capability. American Semiconductor has demonstrated the ability of using iPhones to read the information stored on the FleX-NFC tags.

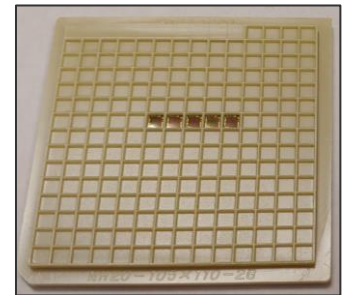


## FleX-NFC FHE System Components

The Kit includes unassembled chips and inlays that the user can use to build their own NFC system, or more likely, to become familiar with the FleX-NFC ICs and see examples of FCB inlays on which they can be applied. Many adopters of ultra-thin FleX chips find this very beneficial to help quickly develop their understanding of ultra-thin chips and their integration into finished systems. FleX-NFC ICs have been integrated by American Semiconductor and industry customers in pad-up and flip-chip configurations. The chips in this kit can be used for your initial evaluations, custom assembly, or applied to the inlays that are provided using your flip-chip assembly capability. Each FleX-NFC Starter Kit FHE System includes FleX-NFC ICs and Aluminum Antenna inlays.

## FleX-NFC ICs

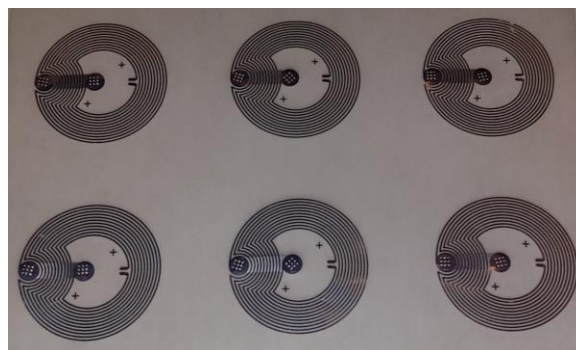
At the heart of the FHE systems is the FleX-NFC, an ultra-thin, flexible version of NXP Semiconductor's NTAG SmartSensor with Temperature Sensor and Digital I/Os. This starter kit also includes 5 of these FleX-NFC ICs in a waffle pack. Each FleX-NFC chip is only 2.51mm x 2.51mm and 40um thick. The FleX-NFC has an internal temperature sensor and an ARM Cortex-M0+ processor, making it ideal for temperature monitoring and logging in either fully passive or battery-assisted applications. Additional information on the FleX-NFC ICs is available for download at:



[https://www.americansemi.com/uploads/1/0/8/4/108441507/as\\_nhs3100\\_flex-nfc\\_datasheet.pdf](https://www.americansemi.com/uploads/1/0/8/4/108441507/as_nhs3100_flex-nfc_datasheet.pdf)

## FleX-NFC Aluminum Antenna Inlays

Each FleX-NFC Starter Kit also includes 6 etched aluminum antenna inlays on 2mil PET. These inlays demonstrate the potential for production of low-cost, small form factor FleX-NFC FHE systems. Many different flexible circuit board materials systems including etched aluminum on PET, printed silver on PET, or etched copper on polyimide can be used to create production FleX-NFC FHE systems.



## Ordering Information

Part Number	Description
AS_NFC01.kit	FleX-NFC Starter Kit

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## Contact Info

For more information or to purchase FleX products, please contact us at:

Email: [sales@americansemi.com](mailto:sales@americansemi.com)

Phone: 208.336.2773

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