aNFC Reader Library: Software Library for Automotive NFC Front-End ICs
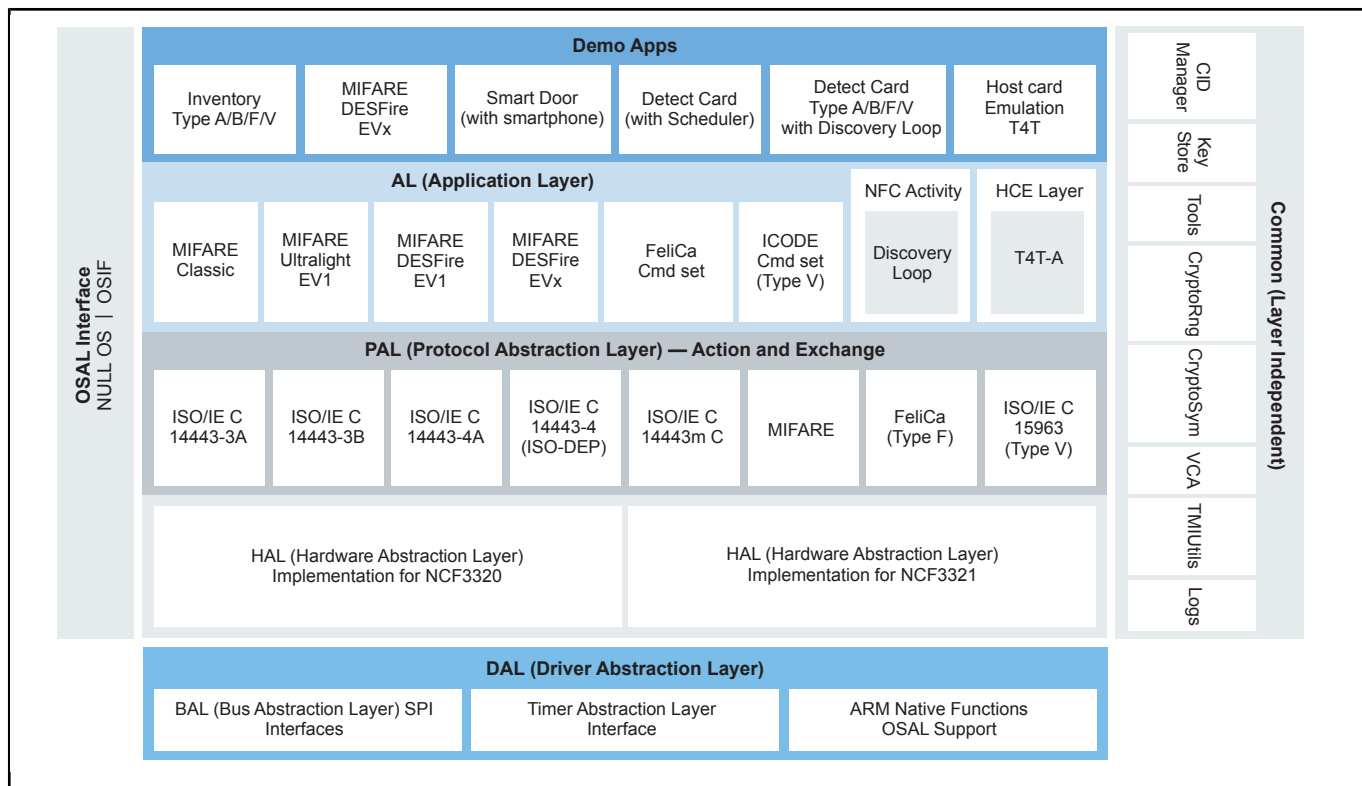
AUTOMOTIVE-NFC-READER-LIBRARY

Last Updated: Jun 21, 2023
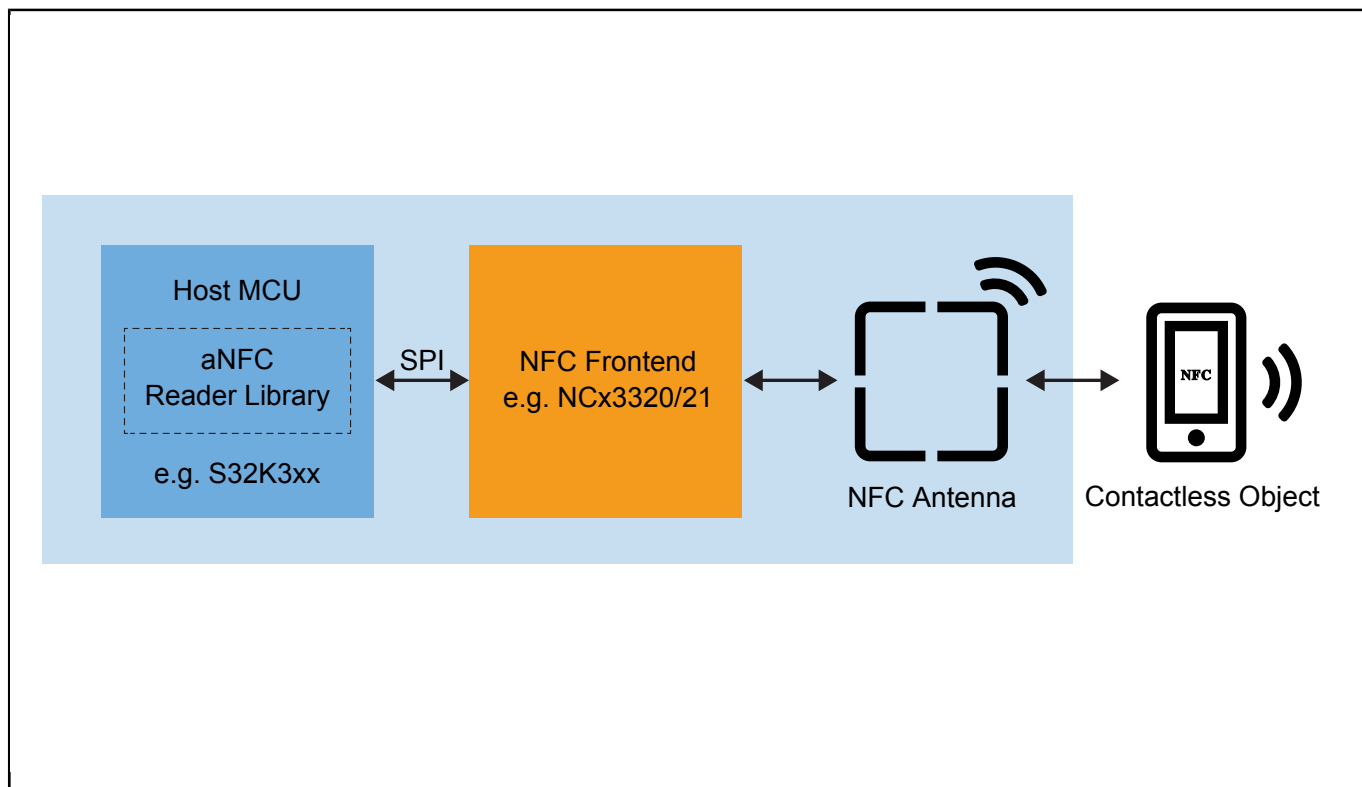
Please send an email to automotive_nfc@nxp.com to request an activation code. After successful registration at nxp.com, you can download the evaluation version, which is valid for 3 months. For production, you have to purchase the NFC parts including the respective license rights.

The Automotive NFC Reader Library is a feature complete and NFC Forum compliant software stack for Automotive NFC front-end ICs. This multi-layer library, written in C, makes it easy to develop Automotive NFC applications like NFC-enabled door handles or NFC-enabled-in-car readers. Its unique features include asynchronous (non-blocking) API and extended error handling. The MISRA-C compliance, extended automotive application testing and Flash and RAM memory reports are provided along with the core library. The software is designed to allow easy porting to different microcontrollers.

aNFC Reader Library Layer Model Block Diagram

OSAL Interface NULL OS	OSIF	Demo Apps						CID Manager

Demo Apps

Inventory Type A/B/F/V	MIFARE DESFire EVx	Smart Door (with smartphone)	Detect Card (with Scheduler)	Detect Card Type A/B/F/V with Discovery Loop	Host card Emulation T4T

AL (Application Layer)

MIFARE Classic	MIFARE Ultralight EV1	MIFARE DESFire EV1	MIFARE DESFire EVx	FeliCa Cmd set	ICODE Cmd set (Type V)	NFC Activity — Discovery Loop	HCE Layer — T4T-A

PAL (Protocol Abstraction Layer) — Action and Exchange

ISO/IE C 14443-3A	ISO/IE C 14443-3B	ISO/IE C 14443-4A	ISO/IE C 14443-4 (ISO-DEP)	ISO/IE C 14443m C	MIFARE	FeliCa (Type F)	ISO/IE C 15963 (Type V)

HAL (Hardware Abstraction Layer) Implementation for NCF3320	HAL (Hardware Abstraction Layer) Implementation for NCF3321

DAL (Driver Abstraction Layer)

BAL (Bus Abstraction Layer) SPI Interfaces	Timer Abstraction Layer Interface	ARM Native Functions OSAL Support

Common (Layer Independent): CID Manager, Key Store, Tools, CryptoRng, CryptoSym, VCA, TMIUtils, Logs

aNFC Reader Library Block Diagram

Host MCU — aNFC Reader Library — e.g. S32K3xx — SPI — NFC Frontend e.g. NCx3320/21 — NFC Antenna — Contactless Object

View additional information for aNFC Reader Library: Software Library for Automotive NFC Front-End ICs.

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