DESIGN AND IMPLEMENT NFC APPLICATIONS

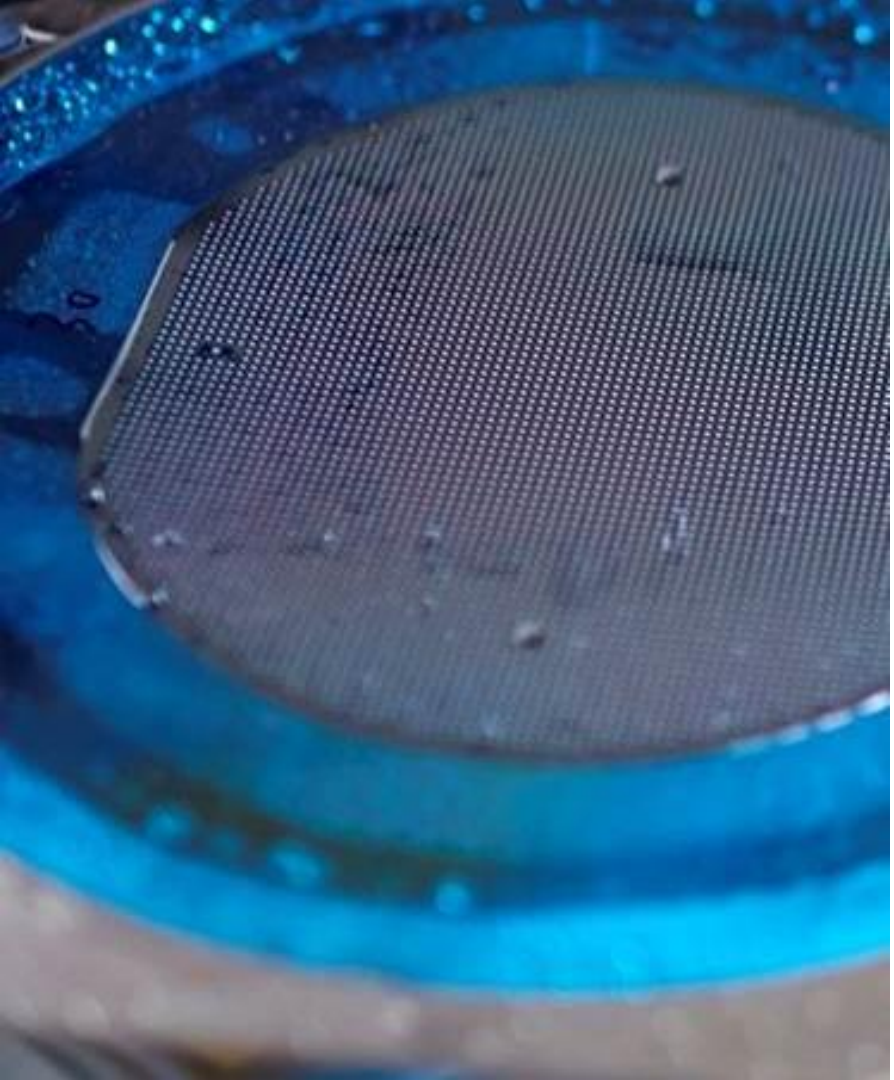
SESSION 1: PRODUCT SUPPORT PACKAGE FOR NXP NFC READERS

September 2016

Training Mobile Knowledge

NXP

SECURE CONNECTIONS FOR A SMARTER WORLD



Agenda

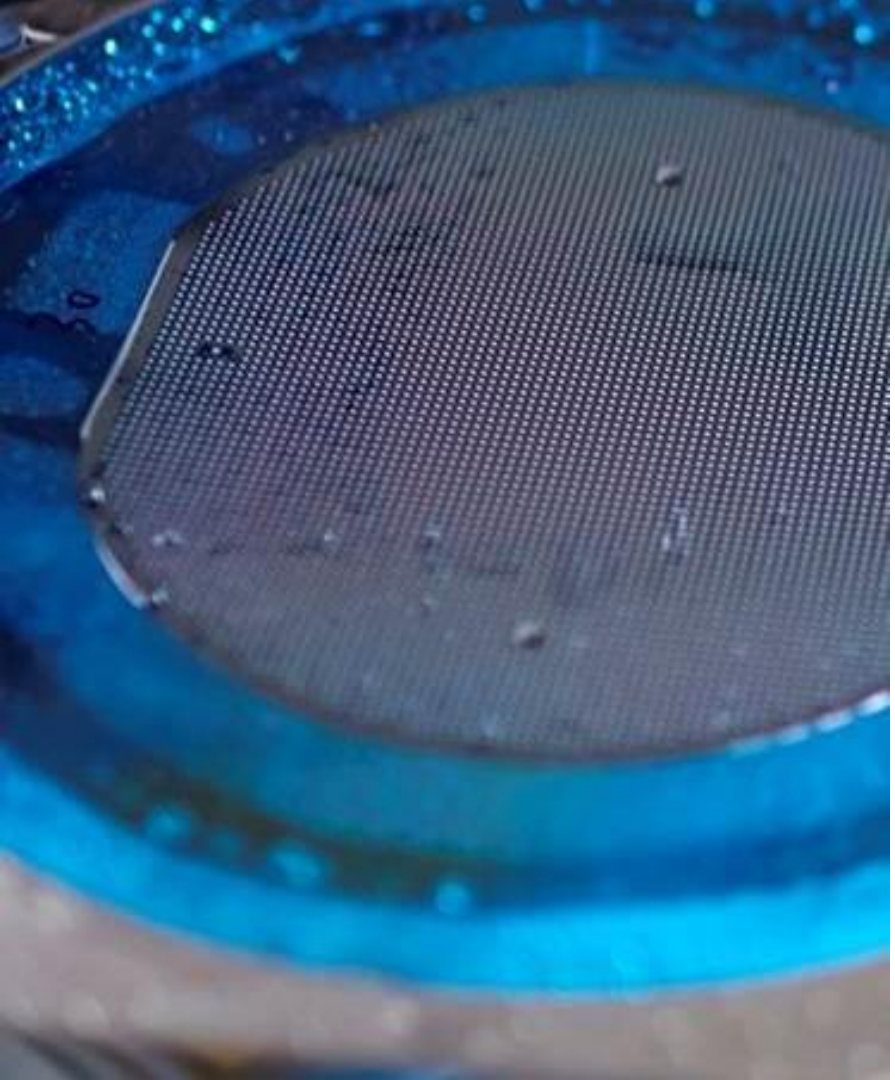
Design and implement NFC applications

Session I, 7th September
Product support package for NXP NFC readers
https://attendee.gotowebinar.com/rt/2329750067403618817

Session II, 28th September
Antenna design considerations for NXP NFC reader solutions
https://attendee.gotowebinar.com/rt/282682617345186049

Session III, 18th October
The NFC Cockpit - the complete design tool for engineers
https://attendee.gotowebinar.com/rt/4665515186055692545

Session IV, 31th October
NFC Reader Library - SW support for NFC frontend solutions
https://attendee.gotowebinar.com/rt/7151741873899128067



Agenda

Design and implement NFC applications

Session I, 7th September
Product support package for NXP NFC readers

- NFC products in our portfolio
- Support material to choose the right NFC solution
- **HW support**: Demokits and reference boards
- **SW support**: Software tools and source code examples
- **More design support**: Antenna design, NFC community, online academy
- Wrap up of our support package for NFC readers

NXP has the best support package on the market

We reduce complexity, streamline tasks and add flexibility
at every point in development

We know each step in the NFC implementation process

Our support package simplifies the process and reduces time to market

We have the right material for each design step

Full range of development kits, design files, sample code, app notes, online training, tutorials

Directly find answers to your questions

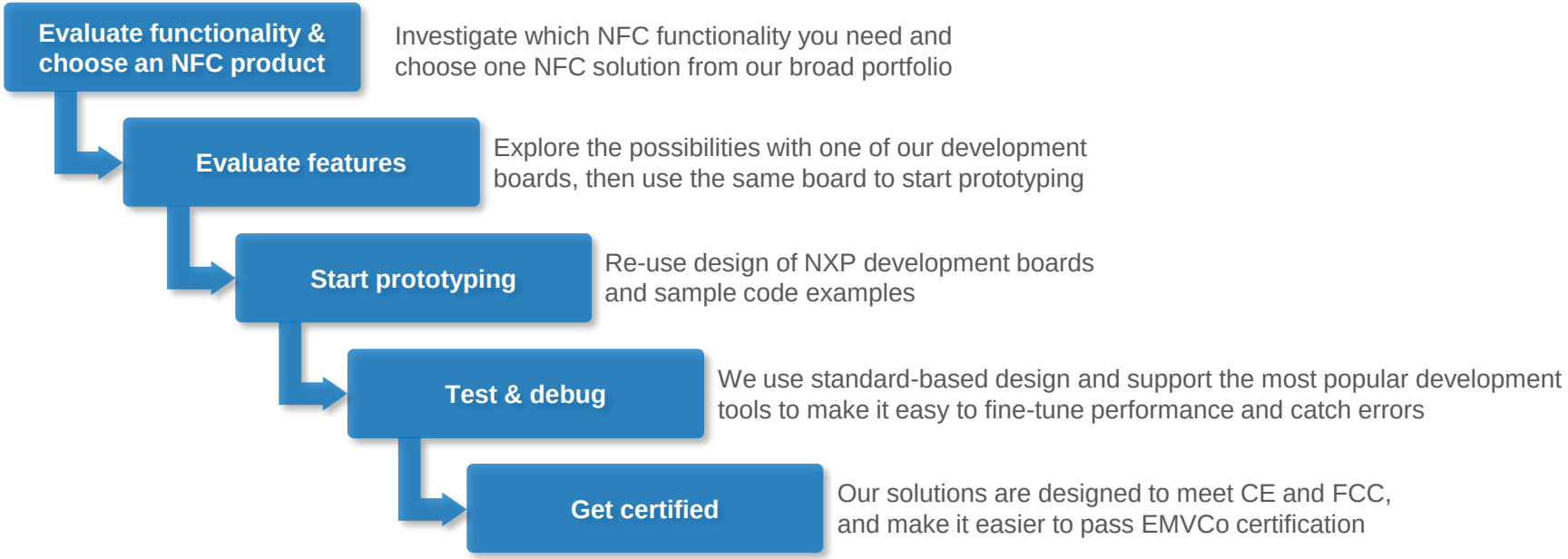
Through our technical NFC community and NXP certified Independent Design Houses (IDHs)

A unique combination of PCB boards, software tools, software examples,
training material, documentation, tutorials and support community

Training Mobile Knowledge

Our support for NFC

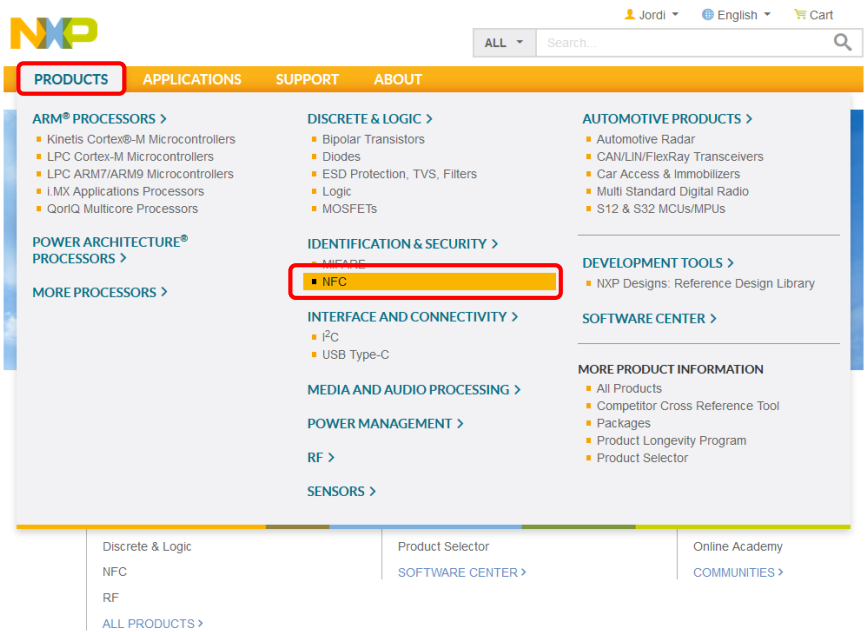
The NXP website is your starting point for any NFC design. It's where you'll find online resources that help you select a product, order samples, and begin development.



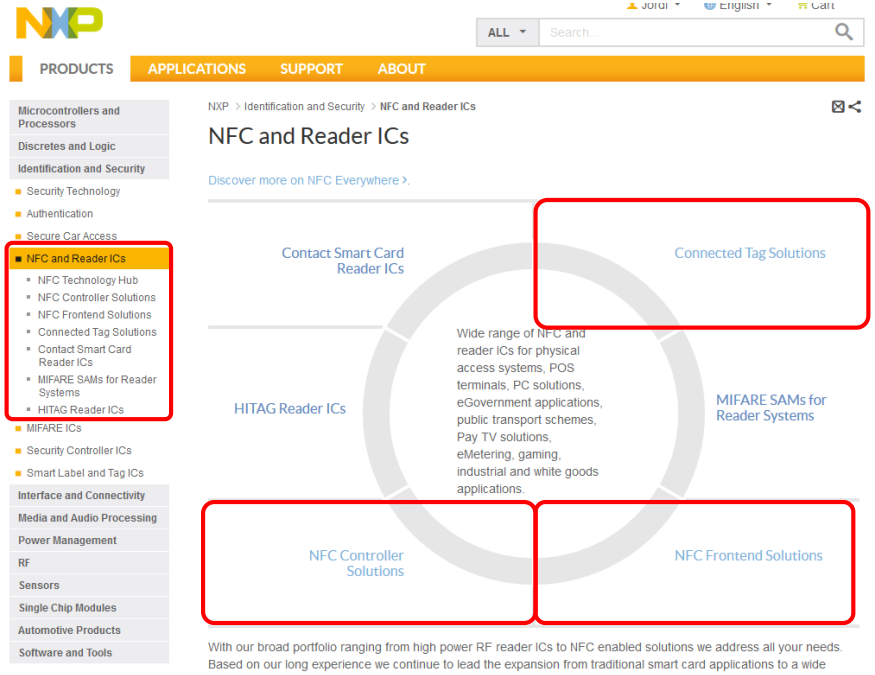
Training Mobile Knowledge

CHOOSE AN NFC PRODUCT

Where to find our NFC portfolio



http://www.nxp.com/

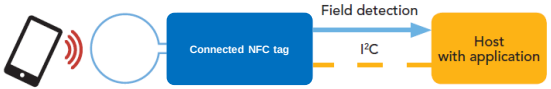


http://www.nxp.com/products/identification-and-security/nfc-and-reader-ics:MC_71110

Training Mobile Knowledge

NFC focus products addressing all your needs

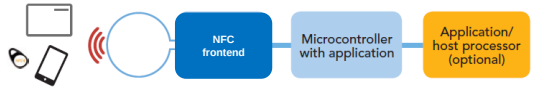
Entry level NFC applications: Connected tag solutions



NTAG I²C *plus* New

- Ideal for low power operations

Maximum flexibility: NFC frontend solutions



SLRC610, MFRC630, CLRC663, **PN5180** New

- Integration with an external MCU

Plug-and-play: NFC controllers with integrated FW

PN7120, **PN7150** New

- Easy integration into any OS-environment

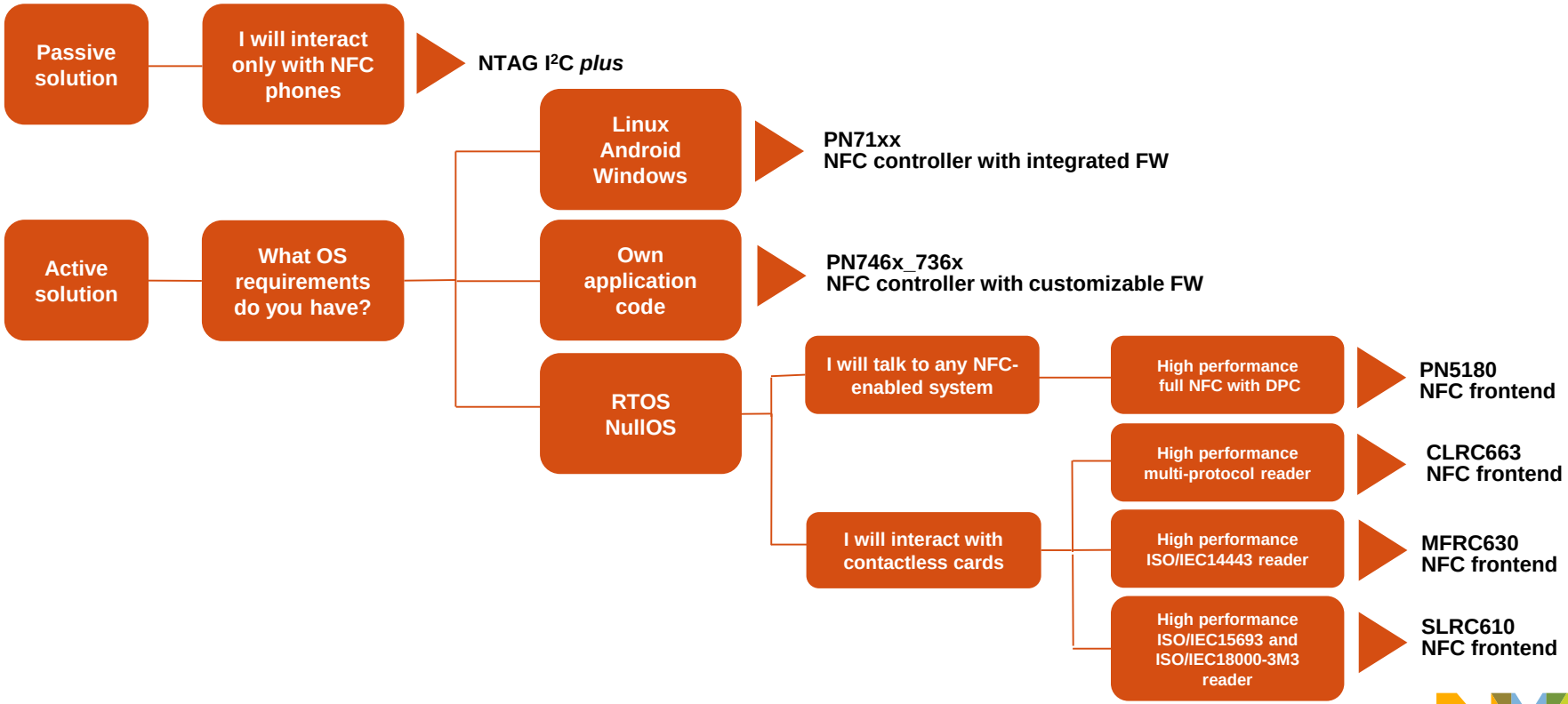
All-in-one: NFC controllers with customizable FW

PN7462 family New

- Contact and contactless interfaces, MCU and software in one chip

Training Mobile Knowledge

The product selection path



Training Mobile Knowledge

More support material to choose an NFC product

Plenty of technical details on our NFC solutions in our **recorded sessions**!

NXP NFC readers portfolio overview
http://www.nxp.com/support/online-academy/nxps-nfc-product-portfolio:NFC-USE-CASES-WEBINAR-2

NFC product selection app
https://play.google.com/store/apps/details?id=com.nxp.nfcproductselection&hl=en

https://itunes.apple.com/us/app/nfc-product-selection/id991603749?mt=8

NTAG I²C *plus* – Your entry way to NFC
http://www.nxp.com/support/online-academy/ntag-i2c-plus-your-entryway-to-nfc:NTAG-I2C-PLUS-ENTRYWAY-TO-NFC

PN71xx family – Plug-and-play NFC solutions
http://www.nxp.com/support/online-academy/pn71xx-product-presentation:PN71XX-PRODUCT-PRESENTATION

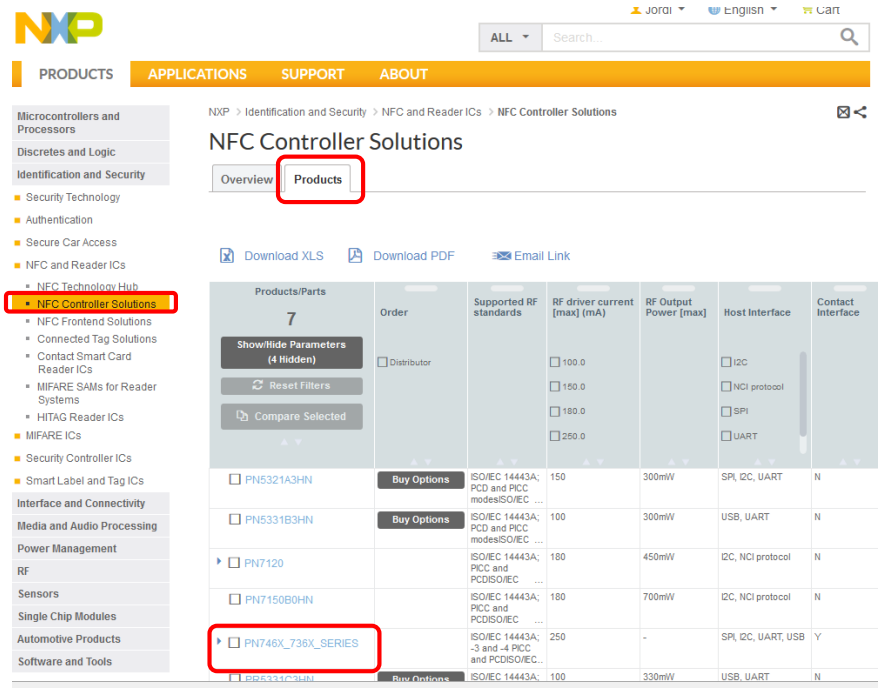
PN5180 – The best full NFC frontend on the market
http://www.nxp.com/support/online-academy/pn5180-the-best-full-nfc-frontend-on-the-market:PN5180-NFC-FRONTEND-OVERVIEW

PN7462 family – First all-in-one full NFC solution
http://www.nxp.com/support/online-academy/pn7462-first-all-in-one-nfc-controller-solution:PN7462-ALL-IN-ONE-NFC-SOLUTION

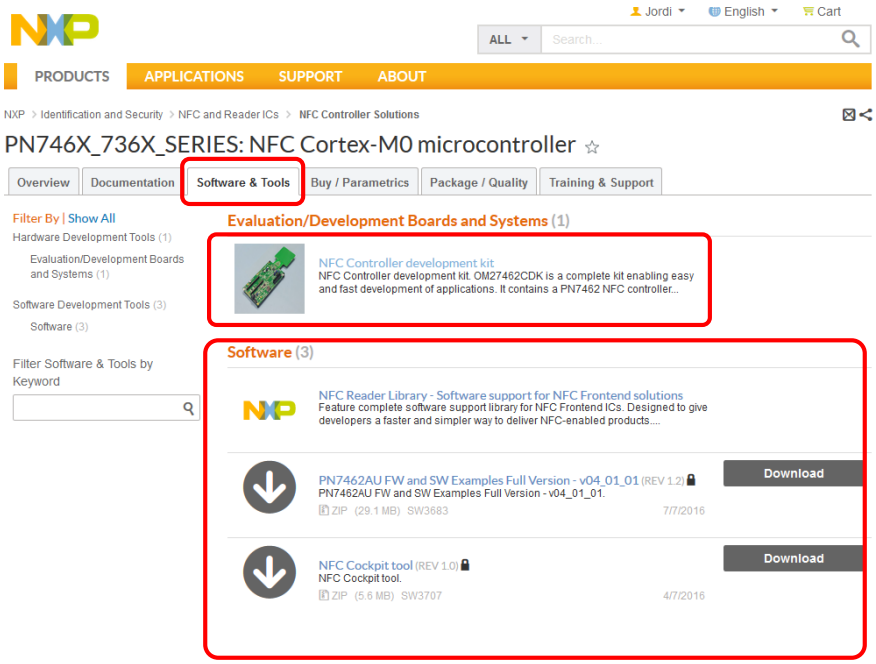
Training Mobile Knowledge

FIND THE SUPPORT PACKAGE

Where to find the support package?



http://www.nxp.com/products/identification-and-security/nfc-and-reader-ics/nfc-controller-solutions:MC_1429876594926?cof=0&am=0&tab=Products



http://www.nxp.com/products/identification-and-security/nfc-and-reader-ics/nfc-controller-solutions/nfc-cortex-m0-microcontroller:PN746X_736X_SERIES?&fpsp=1&tab=Design_Tools_Tab

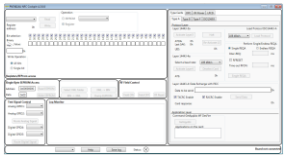
Training Mobile Knowledge

Our demokits are comprehensive packages with extensive support material

Hardware PCBs




Reference source code and tools




IC samples

Documentation

Application notes, User Manuals, Quick start guides

Training Mobile Knowledge

SUPPORT PACKAGE FOR: CONNECTED TAGS PORTFOLIO

OM5569: NTAG I²C *plus* Explorer kit and variants

OM5569-NT322E

Contents

- NFC Explorer board with Class 4 antenna
- Field detector board
- Additional NFC flex antenna (Class 6)
- NTAG I²C *plus* package SO8 samples

Features

- Explorer kit to evaluate NTAG I²C plus and simple prototyping

Ordering details

- Orderable part number: **OM5569-NT322E**
- 12NC: 935307849699
- URL: http://www.nxp.com/demoboard/OM5569-NT322E.html

OM5569-NT322ER

Contents

- NFC Explorer board with Class 4 antenna
- Identive CLOUD 3700F reader
- Field detector board
- Additional NFC flex antenna (Class 6)
- NTAG I²C plus package SO8 samples

Features

- Explorer kit to including USB NFC reader to evaluate NTAG I²C plus and simple prototyping including

Ordering details

- Orderable part number: **OM5569-NT322ER**
- 12NC: 935307848699
- URL: http://www.nxp.com/demoboard/OM5569-NT322ER.html

OM5569-NT322F

Contents

- Class 4 flex antenna
- Class 5 flex antenna
- Class 6 flex antenna
- 10 NTAG I²C plus SO8 samples

Features

- Add-on Flex antenna kit to be used with NFC Explorer board or your own microcontroller for easy prototyping with NTAG I²C plus

Ordering details

- Orderable part number: OM5569-NT322F
- 12NC: 935307851699
- URL: http://www.nxp.com/demoboard/OM5569-NT322F.html

NTAG I²C *plus* support tools and SW

NTAG I²C plus support tools and SW allow you to evaluate the IC capabilities, but also develop and test your own applications

Mobile applications

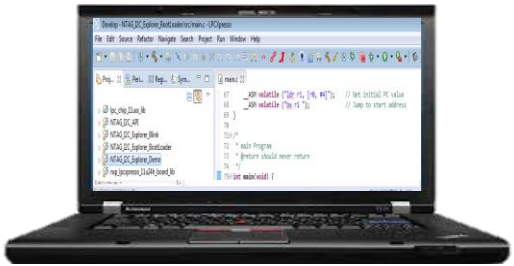
- Explorer kit Android application

Desktop applications

- Explorer kit Windows application
- Peek and Poke

LPCXpresso & firmware

- NTAG I²C Explorer board firmware
  - NTAG I²C Explorer bootloader
  - NTAG I²C Explorer demo
  - NTAG I²C Explorer blink

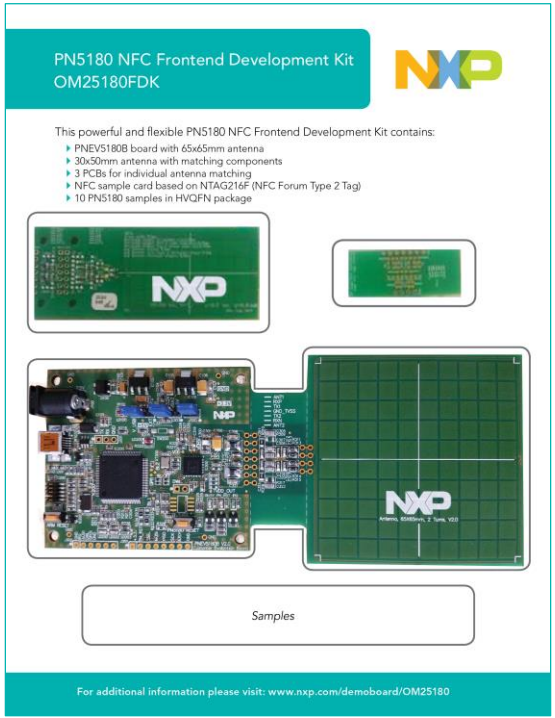


Training Mobile Knowledge

SUPPORT PACKAGE FOR:

NFC FRONTENDS
&
NFC CONTROLLERS WITH CUSTOMIZABLE FW

OM25180FDK: PN5180 NFC frontend development kit



Contents

- PNEV5180B board with 65x65mm antenna optimized for EMVCo applications
- 30 mm x 50 mm antenna with matching components optimized for NFC applications
- Three small antenna matching PCBs for custom antenna matching
- NFC sample card (NTAG216)
- 10 PN5180 IC samples (HVQFN package)

Features

- Quick evaluation of PN5180 NFC frontend IC.
- Connect a custom antenna to PNEV5180 board
- Define and optimize the analog settings for any connected antenna
- Develop NFC applications based on the NFC Reader Library

Ordering details

- Orderable part number: OM25180FDK
- 12NC: 935307319699
- URL: http://www.nxp.com/demoboard/om25180fdk.html

CLEV663B: CLRC663 family development board

Features

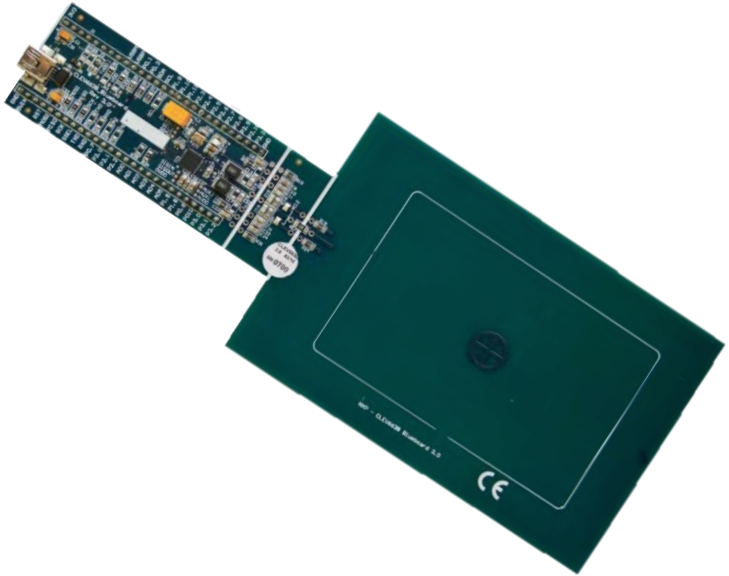
- CLEV663B is an NFC frontend development board which can be used for embedded software development based on LPCXpresso
- Power supply by USB cable.
- Antenna can be separated from the reader IC section.
- Software development kit based on NFC Reader Library.
- Including examples such as: polling loop, MIFARE Ultralight, MIFARE Classic, MIFARE DESFire EV1.

Ordering details

- Orderable part number: CLEV663B
- 12NC: 935297815699
- URL: http://www.nxp.com/demoboard/CLEV663B.html

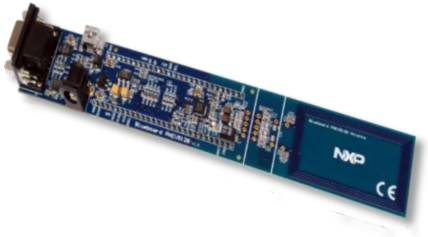
Supported ICs

- Development board for CLRC663, MFRC630 and SLRC610



PNEV512B and EXPLORE-NFC boards

PNEV512B board



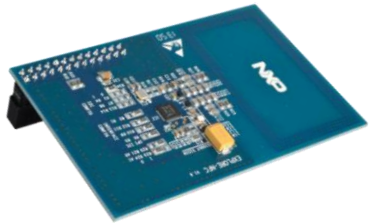
Features

- PNEV512Bis an NFC frontend development board which can be used for embedded software development based on LPCXpresso
- Power supply by USB cable.
- Antenna can be separated from the reader IC section.
- Software development kit based on NFC Reader Library.

Ordering details

- Orderable part number: PNEV512B
- 12NC: 935298199699
- URL: http://www.nxp.com/demoboard/pnev512b.html

EXPLORE - NFC



Features

- EXPLORE-NFC is a high performance full NFC expansion board for the Raspberry Pi
- Based on PN512 NFC frontend reader IC
- Integrated high performance antenna
- Examples available for card polling, P2P communication and card emulation

Ordering details

- Orderable part number: PNEV512R
- 12NC: 935303828699
- URL: http://www.nxp.com/demoboard/PNEV512R.html

OM27462CDK: PN7462 NFC controller development kit

Contents

- PNEV7462B NFC controller board with standard 65x65mm antenna
- 30x50mm antenna with matching components
- Three PCBs for individual antenna matching
- Two USB cables
- OM13054 LPC-Link2 debug adapter
- 10 PN7462 IC samples
- NFC sample cards and tags

Features

- Easy antenna design with NFC Cockpit software and PCB adaptors for antenna matching
- Easy application development with full NFC Forum and EMVCo compliant contact and contactless libraries
- Smartcard reader and SAM slot extensions

Ordering details

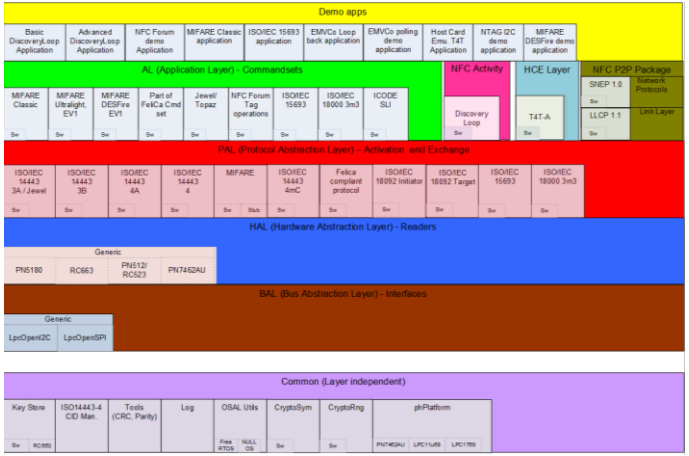
- Orderable part number: OM27462CDK
- 12NC: 935307673699
- URL: http://www.nxp.com/demoboard/om27462CDK.html

NFC Reader Library: software support for NFC frontend solutions

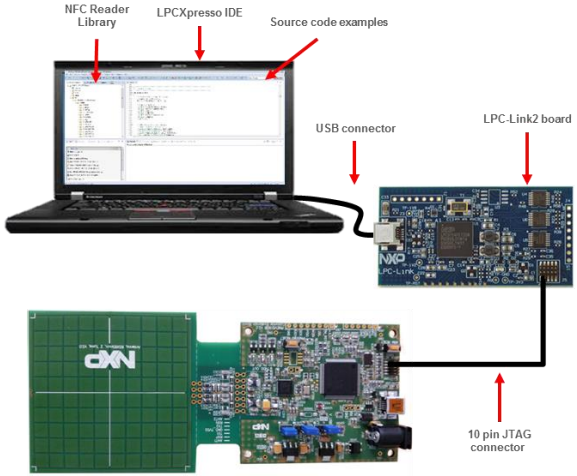
Webinar session
31/10/2016

NFC Reader Library

- The NFC Reader Library is a multi-layer library, written in ANSI C which makes it easy to create NFC-based applications.
- Each layer consists of different components having a generic interface and a specific implementation
- The library structure provides a modular way of programming and is designed in a way to be easily portable to many different microcontrollers.



More info and source code: http://www.nxp.com/pages/:NFC-READER-LIBRARY



NFC Reader Library software packages

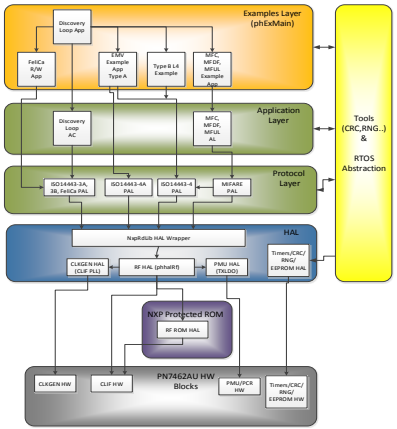
- PN512
- CLR663
- PN5180
- Linux
- PN7462

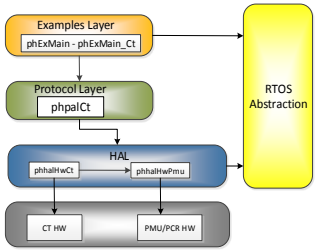
PN7462 family dedicated firmware and software examples

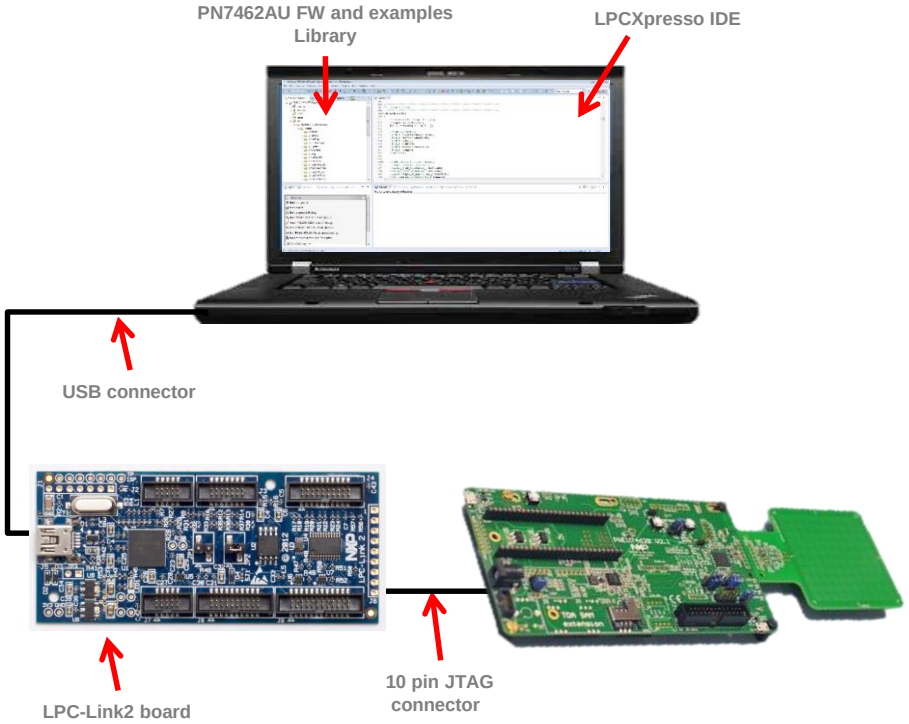
Based on the NFC Reader Library and NXP Contact Library

PN7462 FW and SW examples

- PN7462 is supported by contact and contactless (based on NFC Reader Library) software libraries that are validated and pre-certified for EMVCo and also comply with NFC Forum guidelines
- Written in C language and provide an API that facilitates all the operations and commands required in contact and contactless applications
- Multiple source code examples for the most popular use cases, including payment and access are available.





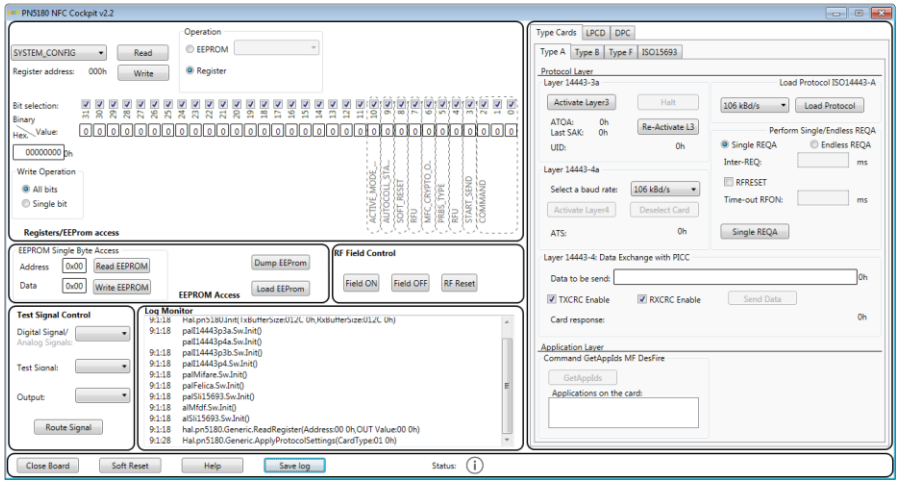


NFC Cockpit - the complete design tool for engineers

Webinar session
18/10/2016

NFC Cockpit

- It is a PC-based GUI that can be used to explore the IC functionality and perform RF and antenna design related tests.
- It can be used to optimize antenna tuning to perform the DPC calibration and the related Tx and Rx optimization without touching any source code.
- It allows direct register and EEPROM modification and fine tuning



Supported NFC solutions

- **PN5180 NFC frontend**, delivering full NFC Forum compliance and high performance
- **PN7462 NFC controller family**, state of the art RF interface

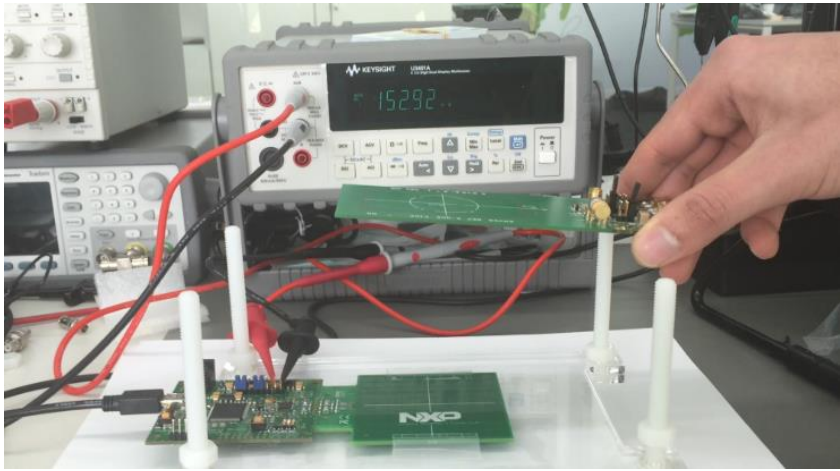


Fig1. DPC feature in action after calibration with the NFC Cockpit tool

Training Mobile Knowledge

SUPPORT PACKAGE FOR NFC CONTROLLERS WITH EMBEDDED FIRMWARE

OM5578: Development kits for PN7150 plug-and-play NFC controller

PN7150 demokits cover integration with **Raspberry Pi**, **BeagleBone Black** and any board with **Arduino-compliant** header (including LPCXpresso, Kinetis and i.MX boards)

ARDUINO

Contents

- PN7150 NFC controller board
- Arduino interface board
- NFC Forum Type 2 Tag

Ordering details

- Orderable part number: OM5578/PN7150ARD
- 12NC: 935309078699
- URL: http://www.nxp.com/demoboard/OM5578.html

Contents

- PN7150 NFC controller board
- BeagleBone Black interface board
- NFC Forum Type 2 Tag

Ordering details

- Orderable part number: OM5578/PN7150BBB
- 12NC: 935309077699
- URL: http://www.nxp.com/demoboard/OM5578.html

Contents

- PN7150 NFC controller board
- Raspberry Pi interface board
- NFC Forum Type 2 Tag

Ordering details

- Orderable part number: OM5578/PN7150RPI
- 12NC: 935309076699
- URL: http://www.nxp.com/demoboard/OM5578.html

OM5577: Development kits for PN7120 plug-and-play NFC controller

PN7120 demokits cover integration with Raspberry Pi, BeagleBone Black and any board with Arduino-compliant header (including LPCXpresso, Kinetis and i.MX boards)

Contents

- PN7120 NFC controller board
- RaspberryPi interface board
- BeagleBone Black interface board
- NFC Forum Type 2 Tag

Ordering details

- Orderable part number: OM5577/PN7120S
- 12NC: 935306352699
- URL: http://www.nxp.com/demoboard/OM5577.html

ARDUINO

Contents

- PN7120 NFC controller board
- Arduino interface board
- NFC Forum Type 2 Tag

Ordering details

- Orderable part number: OM5577/PN7120ARD
- 12NC: 935308904699
- URL: http://www.nxp.com/demoboard/OM5577.html

PN7150 Software images & examples vs hardware compatibility

Development kits for PN7150 (OM5578)

Development kit	Hardware platforms supported	Software images and software examples available
 **OM5578/PN7150ARD** PN7150 SBC Kit for Arduino	Any development board with an Arduino compliant header (e.g. LPCXpresso, Kinetis & Freedom boards, i.MX boards) 	Linux SW image (for UDOO NEO board): OM5578 PN7150 ARD UDOO Linux demo image Android SW image (for UDOO NEO board): OM5578 UDOO Neo Android Lollipop demo image LPCXpresso SW example (LPC824, LPC11U37H, LPC1227 board) NXP-NCI LPCXpresso example Kinetis SW example (for FRDM-K64F board): NXP-NCI Kinetis Design Studio example
 **OM5578/PN7150RPi** PN7150 SBC Kit for Raspberry	 Raspberry Pi	Linux SW image: OM5578 PN7150 RPI Linux demo image WinIoT SW image: OM557x PN71x0 RPI2 WinIoT
 **OM5578/PN7150BBB** PN7150 SBC Kit for BeagleBone Black	 BeagleBone Black	Linux SW image : OM5578 PN7150 BBB Linux demo image Android SW image : OM5578 PN7150 BBB KitKat demo image

PN7120 Software images & examples vs hardware compatibility

Development kits for PN7120 (OM5577)

Development kit	Hardware platforms supported	Software images and software examples available
 **OM5577/PN7120S** PN7120 SBC Kit for Raspberry Pi and BeagleBone Black	 BeagleBone Black	Linux SW image: OM5577_BeagleBone Linux demo image Android SW image: OM5577_BeagleBone Android KitKat demo image
	 Raspberry Pi	Linux SW image: OM5577_Raspberry Pi Linux demo image WinIoT SW image: OM557x PN71x0 RPI2 WinIoT
 **OM5577/PN7120ARD** PN7120 SBC Kit for Arduino	Any development board with an Arduino compliant header (e.g. LPCXpresso, Kinetis & Freedom boards, i.MX boards) 	Linux SW image (for UDOO NEO board): OM5577 PN7120 ARD UDOO Linux Android SW image (for UDOO NEO board): OM5577 UDOO Neo Android Lollipop demo image LPCXpresso SW example (LPC824, LPC11U37H LPC1227): NXP-NCI LPCXpresso example Kinetis SW example (for FRDM-K64F board): NXP-NCI Kinetis Design Studio example

MORE SUPPORT

More support material to get started with NFC demokits

Plenty of details on how to get started with our demokits
and SW tools in our recorded sessions!

NTAG I²C *plus* – product support package
http://www.nxp.com/support/online-academy/ntag-i2c-plus-product-support-package:NTAG-I2C-PLUS-PRODUCT-SUP-PCKG

PN5180 – product support package
http://www.nxp.com/support/online-academy/pn5180-product-support-package:PN5180-PRODUCT-SUPPORT-PACKAGE

PN71xx – product support package
http://www.nxp.com/support/online-academy/pn71xx-product-support-package:PN71XX-PRODUCT-SUPPORT

PN7462 – product support package
http://www.nxp.com/support/online-academy/pn7462-product-support-package:PN7462-PRODUCT-SUPPORT-PACKAGE

NFC antenna design support

AN11276 NTAG antenna design guide

AN14445 Antenna design guide for MFRC52x, PN51x, PN53x

AN11019 CLRC663, MFRC630, MFRC631, SLRC610 antenna design guide

AN11740 PN5180 antenna design guide

AN11564 PN7120 antenna design and matching guide

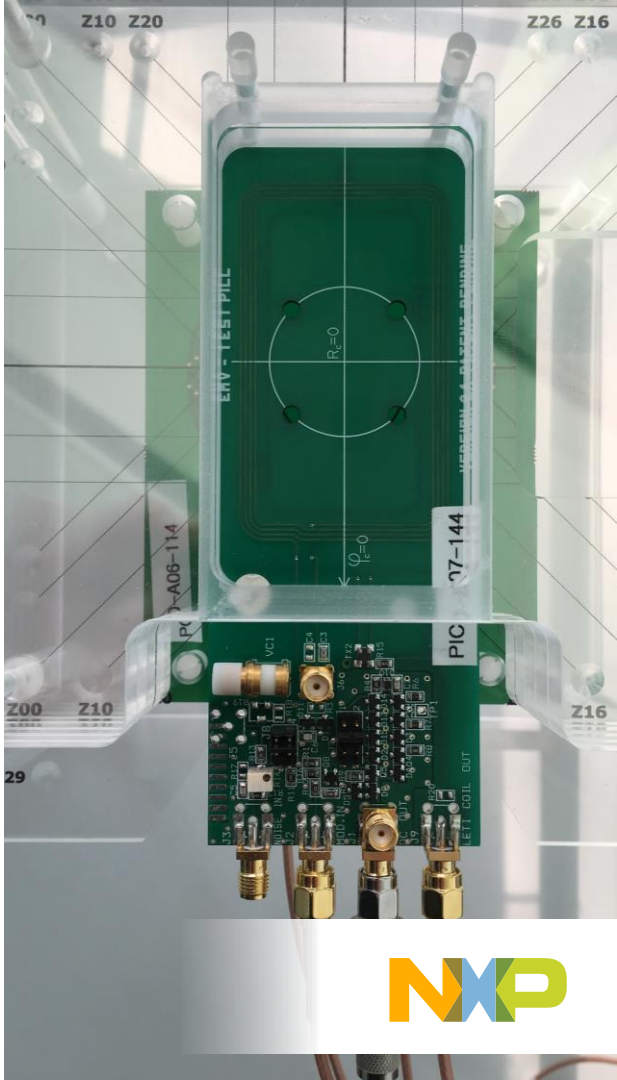
AN11755 PN7150 antenna design and matching guide

AN11706 PN7462AU antenna design guide

AN11741 How to design an antenna with DPC

AN11535 Measurement and tuning of a NFC and reader IC antenna with a miniVNA

Webinar session
28/09/2016

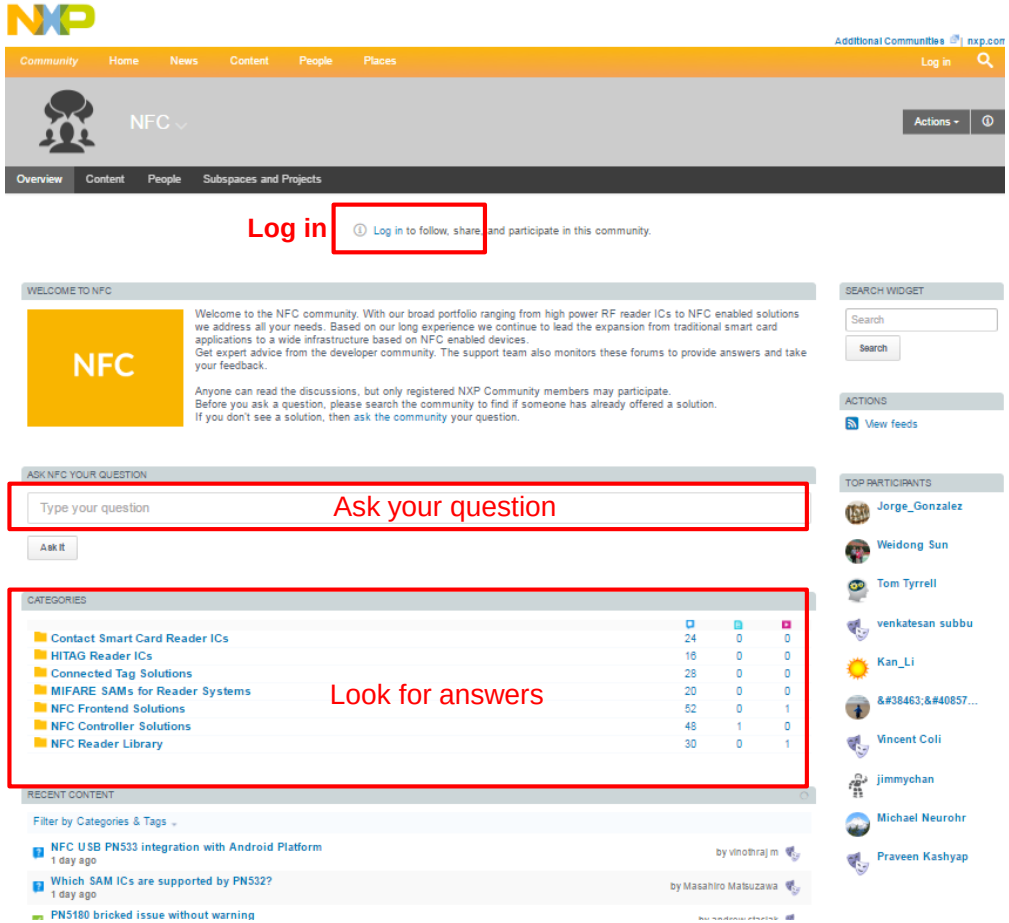


Use our technical community for your questions

Become a registered member and get expert advice from the developer community
https://community.nxp.com/community/nfc

How to get there

- NFC and Reader Ics → NFC Technology hub → NFC support → NFC community
- URL: https://community.nxp.com/community/nfc



Watch on-demand any recorded session

Tap into our free on-demand training library.

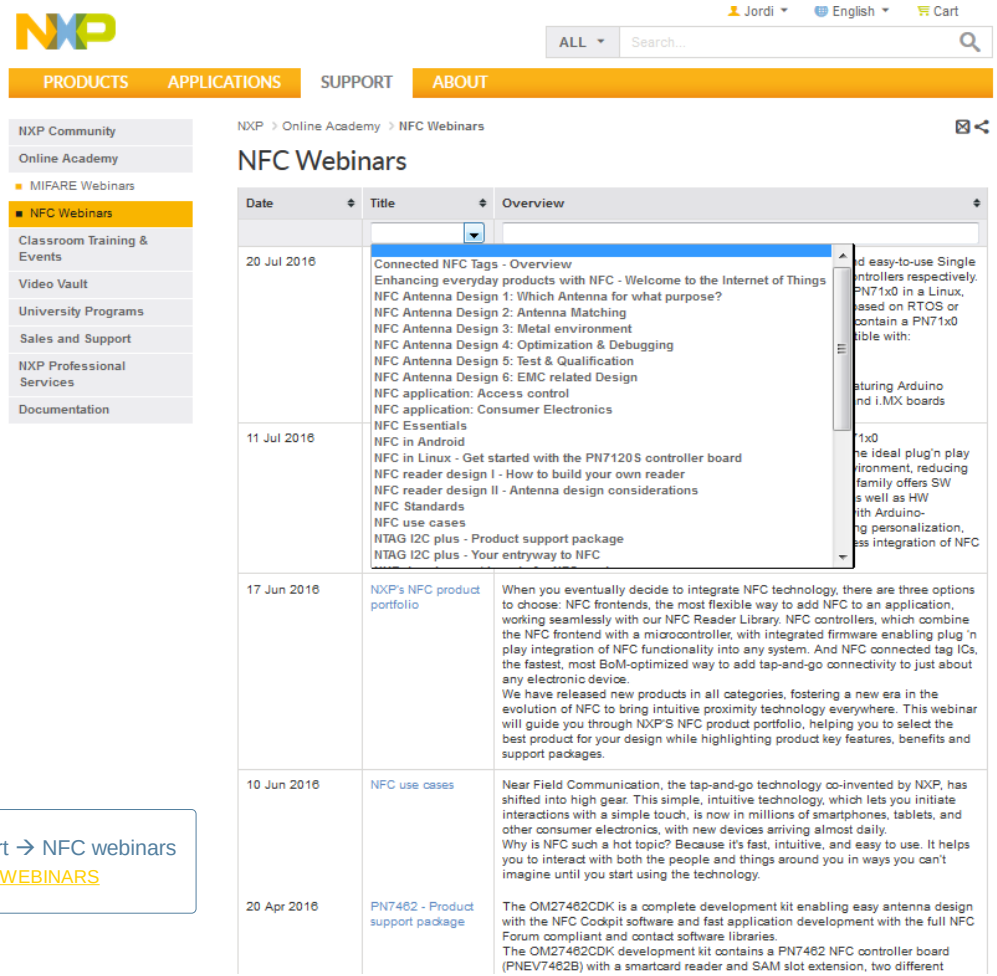
Hundreds of hours of webinars and presentations on NXP products, applications, software, and tools.

Find recorded sessions, among others, for:

- NFC essentials
- NFC use cases
- NFC standards
- NFC reader antenna design (6 sessions)
- NFC reader portfolio
- NFC in smart home, gaming, payments,
- …

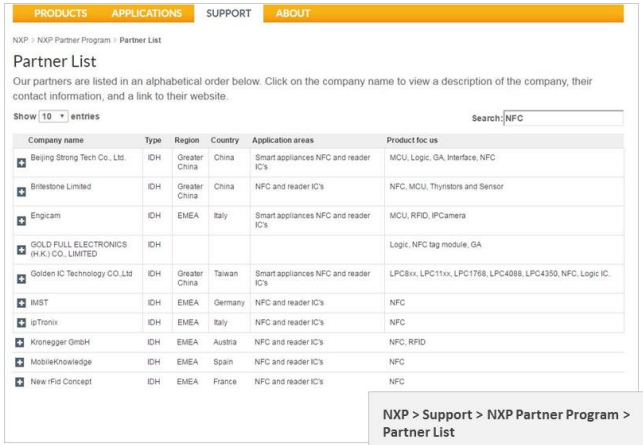
How to get there

- NFC and Reader ICs→ NFC Technology hub → NFC support → NFC webinars
- URL: http://www.nxp.com/support/online-academy/nfc-webinars:NFC-WEBINARS



Find the right partner

Partner List



PRODUCTS APPLICATIONS SUPPORT ABOUT

NXP > NXP Partner Program > Partner List

Partner List

Our partners are listed in an alphabetical order below. Click on the company name to view a description of the company, their contact information, and a link to their website.

Show 10 entries Search: NFC

Company name	Type	Region	Country	Application areas	Product foc us
Beijing Strong Tech Co., Ltd.	IDH	Greater China	China	Smart appliances NFC and reader IC's	MCU, Logic, GA, Interface, NFC
Britestone Limited	IDH	Greater China	China	NFC and reader IC's	NFC, MCU, Thyristors and Sensor
Engicam	IDH	EMEA	Italy	Smart appliances NFC and reader IC's	MCU, RFID, IPCamera
GOLD FULL ELECTRONICS (H.K.) CO., LIMITED	IDH				Logic, NFC tag module, GA
Golden IC Technology CO.,Ltd	IDH	Greater China	Taiwan	Smart appliances NFC and reader IC's	LPC8xx, LPC11xx, LPC1768, LPC4088, LPC4350, NFC, Logic IC.
IMST	IDH	EMEA	Germany	NFC and reader IC's	NFC
IpTronix	IDH	EMEA	Italy	NFC and reader IC's	NFC
Kronegger GmbH	IDH	EMEA	Austria	NFC and reader IC's	NFC, RFID
MobileKnowledge	IDH	EMEA	Spain	NFC and reader IC's	NFC
New rFid Concept	IDH	EMEA	France	NFC and reader IC's	NFC

NXP > Support > NXP Partner Program > Partner List

Partner list (and search for NFC)

How to get there

- NFC and Reader ICs→ NFC Technology hub → NFC support → NFC IDH partners
- URL: http://www.nxp.com/pages/partner-list:PARTNER-LIST

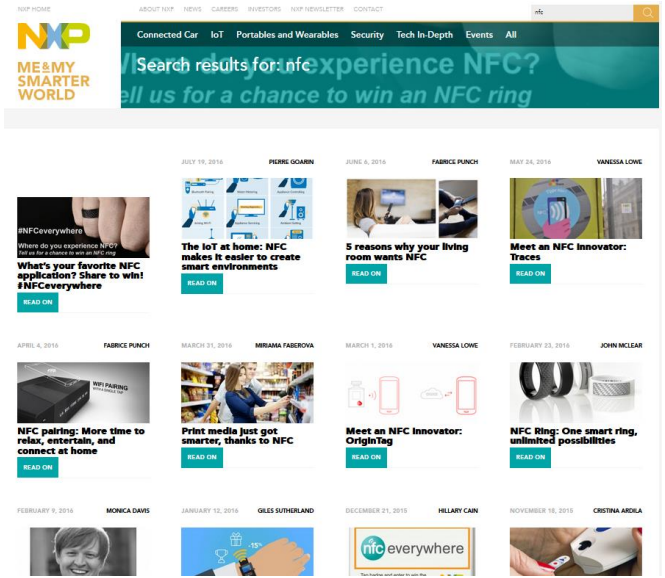
More information about NFC

Visit **NFC knowledge base** to get familiar with NFC technology …

How to get there

- NFC and Reader ICs→ NFC Technology hub → NFC knowledge Base
- URL: http://www.nxp.com/products/identification-and-security/nfc-and-reader-ics/nfc-technology-hub/nfc-knowledge-base:NFC-KNOWLEDGE-BASE

Visit our **blog** for more news about NFC…

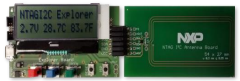


How to get there

- About NXP → Blogs
- URL: http://blog.nxp.com/?s=nfc

OUR SUPPORT PACKAGE IN A NUTSHELL

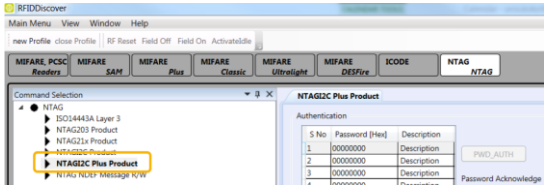
Reference boards and demokits

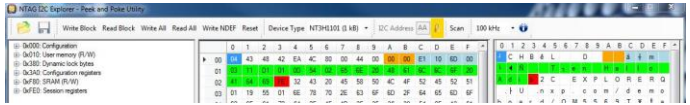
	Connected tags	NFC frontends					NFC Controller		
	NTAG I²C *plus*	PN512	SLRC610	MFRC630	CLRC663	PN5180	PN7120	PN7150	PN7462
Development boards 		PNEV512B	CLEV633B	CLEV633B	CLEV633B	OM25180FDK			OM27462CDK
Single board Computer 							OM5577/ PN7120S OM5577/ PN7120ARD	OM5578/ PN7150ARD OM5578/ PN7150BBB OM5578/ PN7150RPi	
Connected tag EXPLORER kits 	OM5569/ NT322E OM5569/ NT322ER OM5569/ NT322EF								
Explore NFC 		PNEV512R							

Support for **connected tags**

PC tools

- Windows application for NTAG I2C plus Explorer board
- Peek and Poke
- RFID discover





Development kit

- NTAG I²C plus Explorer Kit

Android applications

- NTAG I²C demo app
- TagInfo
- TagWriter

Source code examples

- NTAG I²C Explorer board C firmware
- NTAG I²C demo app Android app source
- NTAG I²C PC app source code

Documentation

- Application notes
- User Manuals
- Getting started guides

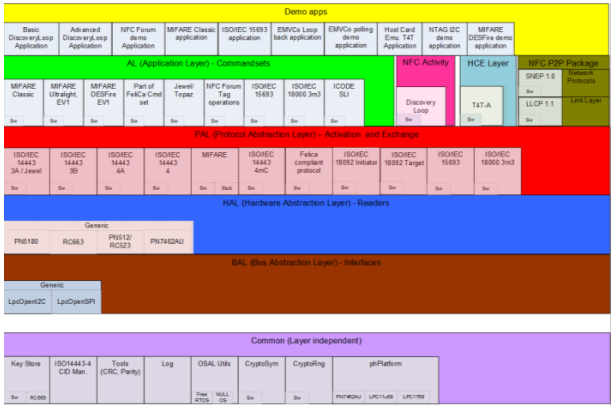
Development environment

- LPCXpresso IDE for LPC MCUs
- MIFARE SDK

Support for NFC frontend solutions

NFC Reader Library

- Software support for NFC frontend solutions:
- Available for: PN512, CLRC663, PN5180, PN7462 and Linux



Development kits and demoboards

- CLEV663B
- OM25180FDK
- PNEV512R
- PNEV512B

Source code examples

- SW examples based on NFC Reader Library demonstrating frontend capabilities

Development environment

- LPCXpresso IDE for LPC MCUs

LPCXPRESSO

Documentation

- Application notes
- User Manuals
- Getting started guides

NFC Cockpit

- A PC tool that ease design process, antenna tuning and register configuration
- (only for PN5180)

Support for NFC controllers with integrated FW

Single board computer kits

- SingleBoard Computer (SBC) kits with interface boards for Arduino, Raspberry Pi and BeagleBone Black

Compatibility with development boards

- Integration with any boards featuring Arduino-compatible header, including many LPC, Kinetis and i.MxX boards

SW images and SW examples

- For Windows 10 IoT , Android, Linux, RTOS, NullOS together with illustrative NFC SW examples

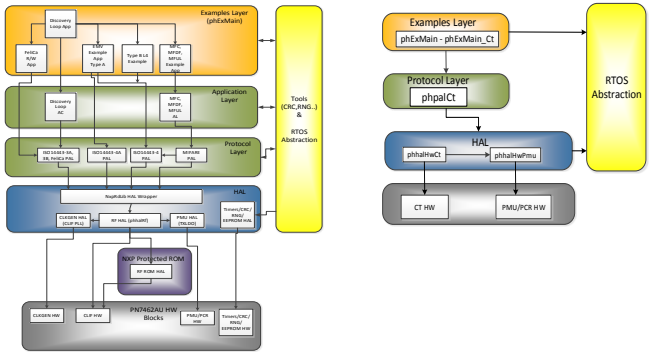
Documentation

- Application notes
- User Manuals
- Getting started guides

Support for NFC controllers with customizable FW

Fully customizable firmware

- Based on the NFC Reader Library and NXP Contact Library



Development kits

- OM27462CDK NFC Controller development kit enabling easy and fast development of applications

Source code examples

- SW examples based on contact and contactless SW libraries demonstrating NFC controller capabilities

Development environment

- LPCXpresso IDE
- Keil and IAR tool chain

LPCXPRESSO

Documentation

- Application notes
- User Manuals
- Getting started guides

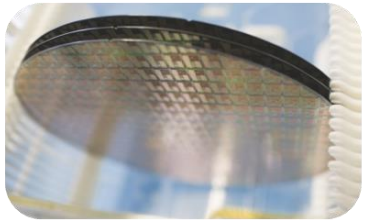
NFC Cockpit

- A PC tool that ease design process, antenna tuning and register configuration

Training Mobile Knowledge

NXP is the right choice for your design

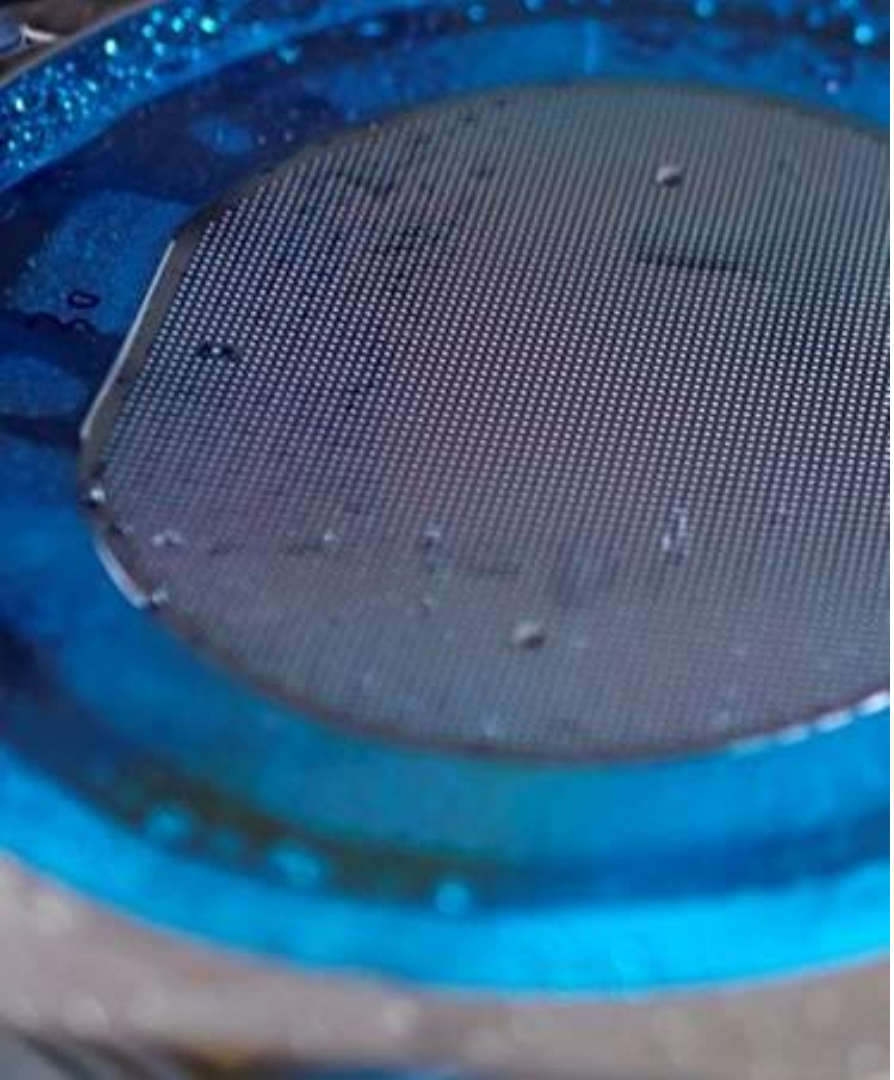
We have the technology



We are NFC

We share our know-how

We enable easy design-in



Next sessions

Design and implement NFC applications

Session I, 7th September
Product support package for NXP NFC readers
https://attendee.gotowebinar.com/rt/2329750067403618817

Session II, 28th September
Antenna design considerations for NXP NFC reader solutions
https://attendee.gotowebinar.com/rt/282682617345186049

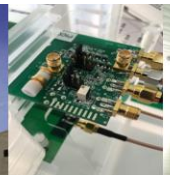
Session III, 18th October
The NFC Cockpit - the complete design tool for engineers
https://attendee.gotowebinar.com/rt/4665515186055692545

Session IV, 31th October
NFC Reader Library - SW support for NFC frontend solutions
https://attendee.gotowebinar.com/rt/7151741873899128067

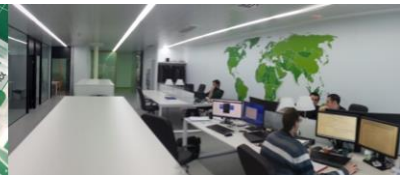
MobileKnowledge

Software development in Android and iOS
Embedded software for MCUs
JCOP, Java Card operating Systems
Hardware design and development
Digital, analog, sensor acquisition, power management
Wireless communications WiFi, ZigBee, Bluetooth, BLE
Contactless antenna RF design, evaluation and testing

MIFARE applications
End-to-end systems, readers and card-related designs
EMVco applications
Readers, cards, design for test compliancy (including PCI)
Secure Element management
GlobalPlatform compliant backend solutions
Secure services provisioning OTA, TSM services



We help companies leverage the mobile and **contactless revolution**

MobileKnowledge
Roc Boronat 117, P3M3
08018 Barcelona
(Spain)

Get in touch with us
www.themobileknowledge.com
mk@themobileknowledge.com

Partner IDH Independent Design House
Accredited Training Partner
MOBILE WORLD CAPITAL BARCELONA

Design and implement NFC applications

Session 1: Product support package for NXP NFC readers

Jordi Jofre (Speaker)
Angela Gemio (Host)

Thank you for your kind attention!

Please remember to fill out our **evaluation survey** (pop-up)

Check your email for **material download** and on-demand **video** addresses

Please check NXP and MobileKnowledge websites for **upcoming webinars** and **training sessions**

http://www.nxp.com/support/classroom-training-events:CLASSROOM-TRAINING-EVENTS
www.themobileknowledge.com/content/knowledge-catalog-0