

AN12989

PN7160 product quick start guide

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Application note
COMPANY PUBLIC

Document information

Information	Content
Keywords	PN7160, NFC, quick start
Abstract	This document describes the product support package to be used to start working with PN7160.



1 Revision history

Revision history

Rev	Date	Description
1.0	20210913	Initial version

2 Introduction

This document describes how to start working with PN7160 to add NFC functionality to a device. It guides to find the relevant information for hardware, antenna and software integration as well as information related to the PN7160 evaluation kit for reference implementation to be used as example.

3 General description of PN7160

PN7160 is a full NFC controller solution with integrated firmware and NCI interface designed for contactless communication at 13.56 MHz.

PN7160 is the ideal solution for rapidly integrating NFC technology in any application, especially those running O/S environment like Linux or Android reducing Bill of Material (BOM), size and cost.

You can get PN7160 technical details in the product data sheet: <http://www.nxp.com/doc/PN7160>.

4 PN7160 integration steps

4.1 Hardware integration

Guidelines for hardware integration are provided in the PN7160 Hardware design guide document: <http://www.nxp.com/doc/AN12988>.

Additionally, the PN7160 Low-power mode configuration document describes how to optimize power consumption by use of the low power polling modes: <http://www.nxp.com/doc/AN12990>.

The PN7160 evaluation kit can be used as reference design (see [Section 5.1](#)).

4.2 Antenna integration

Recommendation for the antenna design choice and guidelines for antenna matching are given in the PN7160 Antenna design and matching guide document: <http://www.nxp.com/doc/AN13219>.

While guidelines for tuning the RF parameters are given in the PN7160 RF settings guide document: <http://www.nxp.com/doc/AN13218>.

The PN7160 evaluation kit can be used as reference design (see [Section 5.1](#)).

4.3 Software integration

The product user manual describes the PN7160 host interface commands: <http://www.nxp.com/doc/UM11495>.

Furthermore, depending on the targeted platform the following software solutions are supported.

4.3.1 Android

The PN7160 Android porting guide document provides guidelines to integrate support of PN7160 under an Android system: <http://www.nxp.com/doc/AN13189>.

4.3.2 Linux

The PN7160 Linux porting guide document describes the Linux libnfc-nci software stack supporting PN7160 under a Linux system: <http://www.nxp.com/doc/AN13189>.

4.3.3 Other OS or no OS

For other systems, source code examples and related documentation are given for NXP's LPC and i.MxRT MCUs:

- PN7160 NXP-NCI2.0 MCUXpresso example Software resource: <https://www.nxp.com/doc/SW6705>
- PN7160 NXP-NCI2.0 MCUXpresso examples guide: <http://www.nxp.com/doc/AN13288>

5 PN7160 evaluation kit

The PN7160 dev kit is available in 2 configuration referenced as:

- OM27160A1EVK: PN7160 I²C variant development kit with Raspberry Pi and Arduino interface
- OM27160B1EVK: PN7160 SPI variant development kit with Raspberry Pi and Arduino interface

All information can be found on the dedicated PN7160 dev kit webpage: .

5.1 Hardware

The PN7160 evaluation board user manual provides a description of the development kit from hardware perspectives: <http://www.nxp.com/doc/UM11496>.

The related schematics, BOM and Gerber files can be found here: <https://www.nxp.com/doc/HW6635>(OM27160A1HN) and <https://www.nxp.com/doc/HW6636>(OM27160B1HN).

But the kit also includes NFC's SBC Interface boards referenced as OM29110 and described in the related user manual:

<http://www.nxp.com/doc/UM10956>.

The related schematics, BOM and Gerber files can be found here: <https://www.nxp.com/doc/HW6707>.

5.2 Software

The PN7160 Evaluation kit quick start guide gives guidelines to start using the OM27160 evaluation kits in combination with Raspberry Pi motherboard or NXP's MCU/MPU boards featuring Arduino or Raspberry Pi headers: <http://www.nxp.com/doc/AN12991>.

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