UM12397

Getting access to the NCJ29D5 customer support package

Rev. 1.0 — 14 October 2025 User manual

Document information

Information	Content
Keywords	NCJ29D5, Demo Board, Customer Support Package, Secure Files, Software Release
Abstract	This document explains how to access and use the NCJ29D5 Customer Support Package from NXP. It describes the required hardware and software for running UWB demonstration applications and outlines the steps for account registration and secure access to documentation and tools.

1 Introduction

This user manual provides guidance on how to get started with the **NCJ29D5 Customer Support Package**.

The package includes:

- NCJ29D5 evaluation board (EVB)
- Corresponding software tools and documentation

The evaluation board is preflashed with the **UCI Ranging Application** [3] software. This application enables distance measurement using Ultra-Wideband (UWB) technology and is intended to support customer Proof of Concept (PoC) development.

The NCJ29D5 evaluation board can be used in two configurations:

- With an external microcontroller unit (MCU) board
- With an FTDI cable for direct PC communication

For demonstration purposes, this manual uses the **NXP S32K144 EVB** as the host MCU.

This document is structured as follows:

- Section 2 provides an overview of the hardware components required to perform ranging.
- Section 3 details the registration process to access the documentation.
- Section 4 describes the process from creating a software account to downloading the software. NXP suggests using the latest software version available.

Note: *Download the latest version of this document at https://www.nxp.com/products/NCJ29D5.*

2 Getting the hardware

This section lists the hardware components required to run the NCJ29D5 Ranging Application Software. The package includes an NCJ29D5 demo board (LID2434) with a soldered IC, as shown in Figure 1.

To run the application examples, at least two NCJ29D5 demo boards are required. Depending on the selected demonstration setup—**Option 1** or **Option 2**—you will also need a matching number of either **S32K144 Evaluation Boards** or **FTDI C232HM-DDHSL-0 cables**.

- **Option 1**: Indirect communication via S32K144 EVB (see Section 2.3)
- **Option 2**: Direct communication via FTDI cable (see Section 2.3)

2.1 NCJ29D5 demo board setup

Figure 1 shows the demo board with the main interfaces.

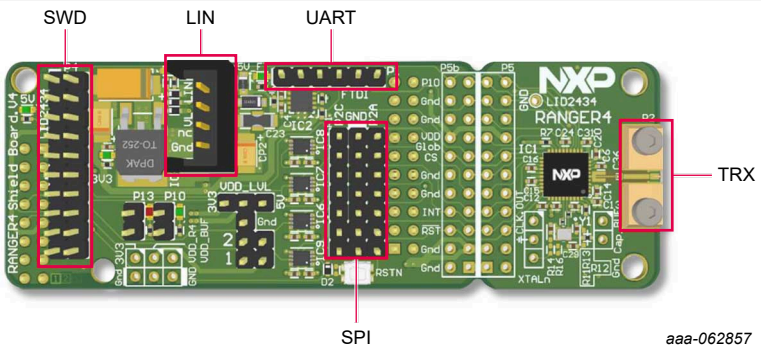


Figure 1. NCJ29D5 demo board with main interfaces

- **SWD:** Debug interface for flashing and debugging of NCJ29D5
- **LIN:** For standalone operation
- **UART:** Pinheader to connect UART and 5 V board supply
- **TRX:** Antenna connector
- **SPI:** Six-wire Serial Peripheral Interface

The device is designed to operate in two different ways to communicate with a PC. The device can either communicate indirectly via the S32K144, which acts as a communication bridge connected to the PC, or directly using a FTDI C232HM-DDHSL-0 cable. For more details on general device features and parameters, refer to the *UM1806 Demoboard Manual for the NCJ29D5 Demoboard B0* [4]. The *NCJ29D5 Demoboard User Manual* is included in the *NCJ29D5 Demo Board Release Package* [1], available through the NXP product website https://www.nxp.com/products/NCJ29D5.

The NCJ29D5 demo board and the antenna boards, see Section 2.2, are available on the product website of NXP https://www.nxp.com/products/NCJ29D5. Figure 2 shows a snippet from the website with available hardware components that can be ordered.

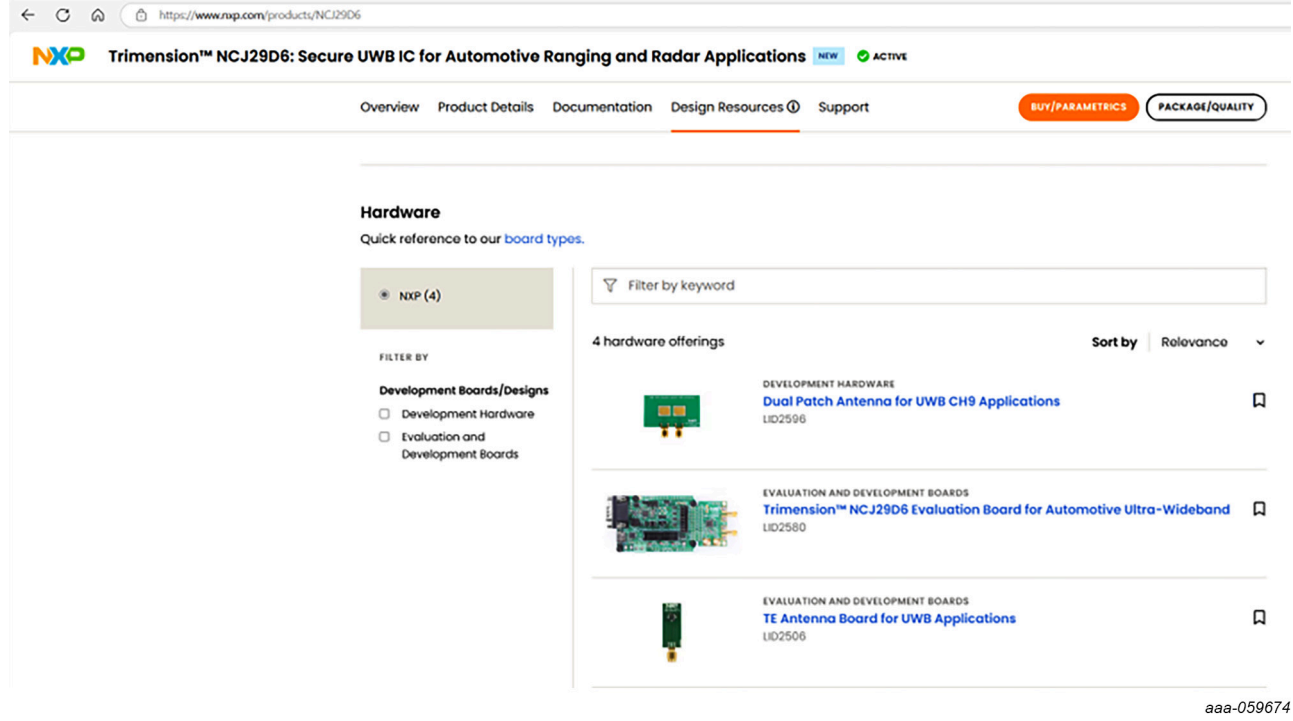


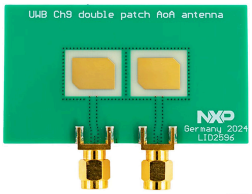
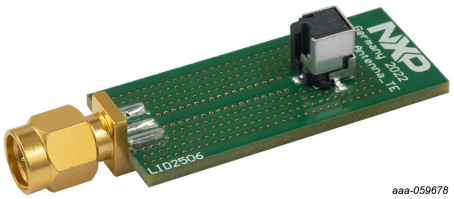
Figure 2. Product website

2.2 UWB antenna types

The different NXP UWB antenna boards are shown in Table 1. NXP suggests using either one of these antenna boards to have a common setup on the customer and NXP side. Via the SMA connector customers can connect their own antennas, too.

Note: *Antenna boards are available on https://www.nxp.com/products/NCJ29D5.*

Table 1. UWB antenna types

Type	Application	Image
Dual patch antenna board for UWB CH9 applications[1]	Ranging, radar and AoA	
TE antenna board[1]	Ranging and radar	

[1] CAUTION: This product has not undergone formal electromagnetic compatibility (EMC) assessment. It is the responsibility of the user to ensure that any finished assembly complies with applicable regulations on EMC interference. EMC testing, and other testing requirements for Consumer Electronics (CE) are the responsibility of the user.

Note: *The Vivaldi antenna listed on the website will be discontinued and is therefore not covered in this document.*

2.3 Hardware setup

There are two possible demo setups that differ in the way the PC communicates with the NCJ29D5:

- **Indirect communication via S32K144 EVB**
  The S32K144 acts as a communication bridge between the PC and the NCJ29D5.
  (see Section 2.4)
- **Direct communication via FTDI C232HM-DDHSL-0 cable**
  The PC communicates directly with the NCJ29D5 using the FTDI cable.
  (see Section 2.5)

Option 1: Ranging setup with S32K144 EVB

For the first option the following components are needed. See Figure 3.

- 2x S32K144 EVBs
- 2x NCJ29D5 EVBs
- 2x Micro USB cables
- 1x PC

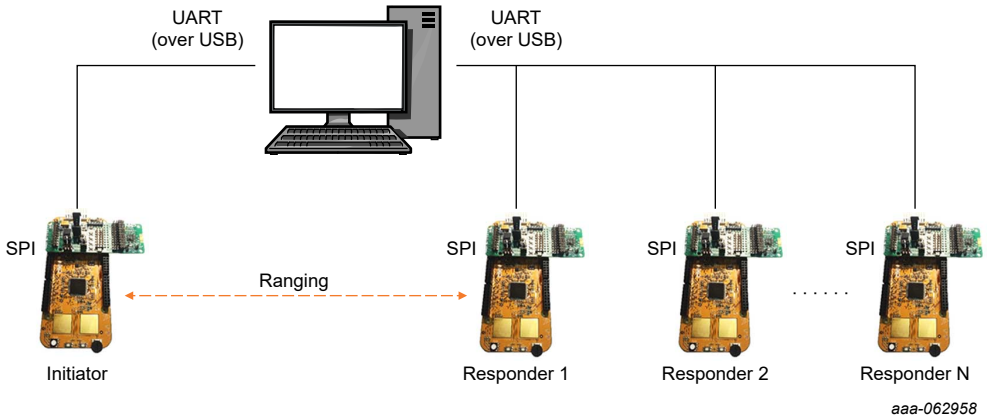


Figure 3. Ranging setup with S32K144 EVB (Option 1)

Option 2: Ranging setup with FTDI C232HM-DDHSL-0 cable

For the second option the following components are needed. See Figure 4.

- 2x FTDI C232HM-DDHSL-0 cables
- 2x NCJ29D5 EVBs
- 1x PC

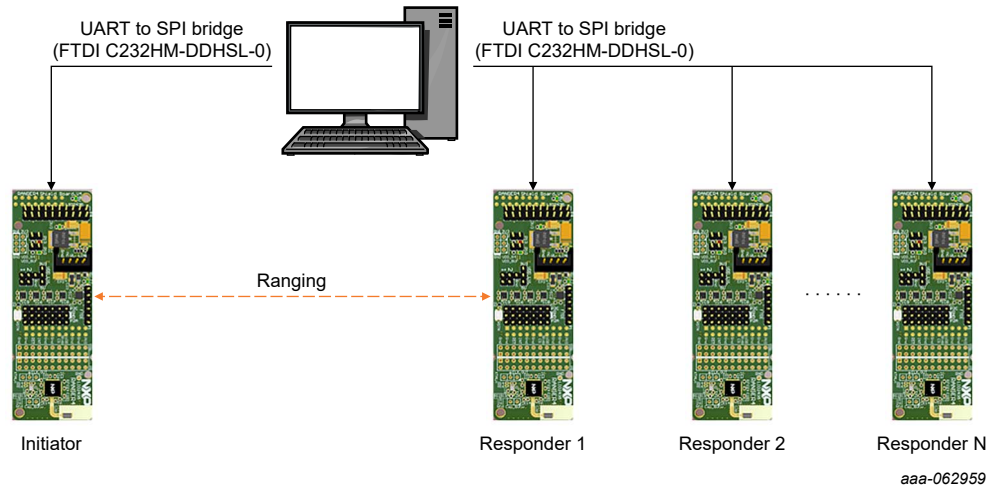


Figure 4. Ranging setup with FTDI C232HM-DDHSL-0 cable (Option 2)

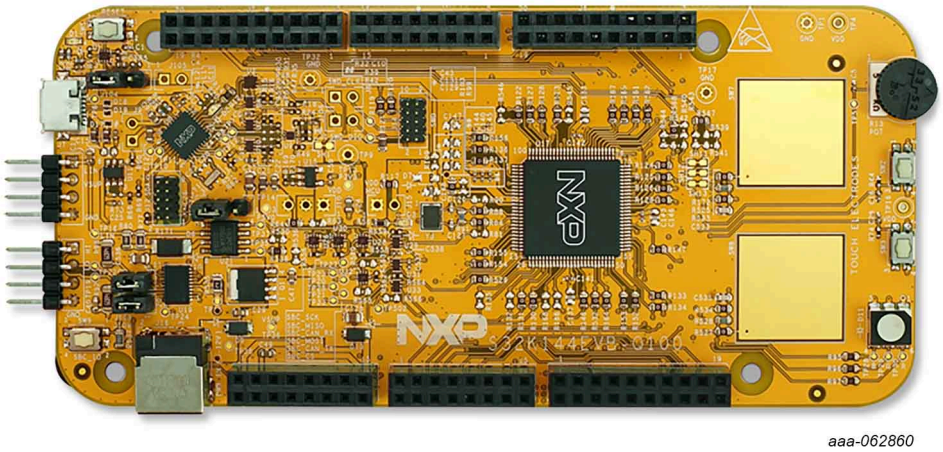
Both options require at least two sets of hardware, as shown in Figure 3 and Figure 4. However, the system also supports a one-initiator-to-multiple-responders configuration. In this setup, if more than two devices are connected to the PC, one device is designated as the initiator, while the remaining devices function as **responders**. Refer to the document *UM1902 NCJ29D5 Quick Start Guide* [2] on how to get started with the first ranging application.

2.4 S32K144 evaluation board

A host controller, such as the S32K144 evaluation board (EVB), can be directly connected to a preflashed NCJ29D5 demo board to perform ranging operations for proof of concept (PoC) purposes.

The S32K144 EVB must be ordered separately from NXP at https://www.nxp.com/design/design-center/development-boards-and-designs/automotive-development-platforms/s32k-mcu-platforms/s32k144-q100-evaluation-board-for-automotive-general-purpose:S32K144EVB.

For further assistance or inquiries, contact your local NXP Field Application Engineer (FAE).



aaa-062860

Figure 5. NXP S32K144 evaluation board

2.5 FTDI C232HM-DDHSL-0 cable

The FTDI C232HM-DDHSL-0 cable serves as a replacement for the S32K144 EVB in the communication setup. It provides power to the NCJ29D5 evaluation board and functions as the communication interface between the PC and the NCJ29D5.

The PC communicates directly with the NCJ29D5 using a USB-to-SPI protocol via this cable. The customer must order the FTDI cable separately, as it is not included in the standard package.

aaa-047215

Figure 6. FTDI C232HM-DDHSL-0 cable

3 Getting the latest documentation

The latest documentation for the NCJ29D5, such as data sheet, user guide, and application notes, are available for download from NXP's website, https://www.nxp.com. Go to the **Secure Files** page (*My NXP Account* → *Secure Files*) and the product page (https://www.nxp.com/products/NCJ29D5). If you do not have an NXP account yet, you are able to download only the public documents from the product website as shown in Figure 7.

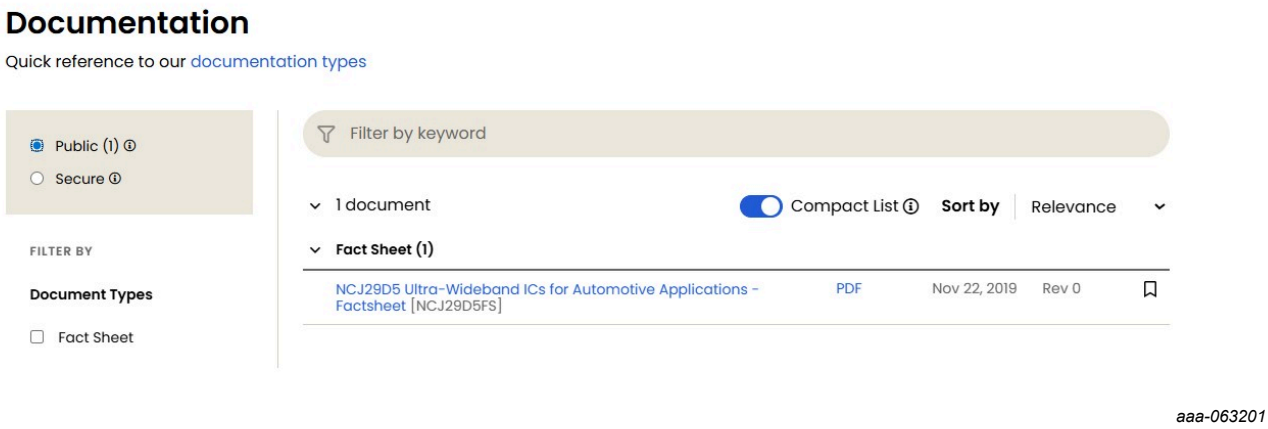


Figure 7. Product page: Public documents

In Figure 8, no other documents are listed under the **Secure** section without logging in with an nxp.com account.

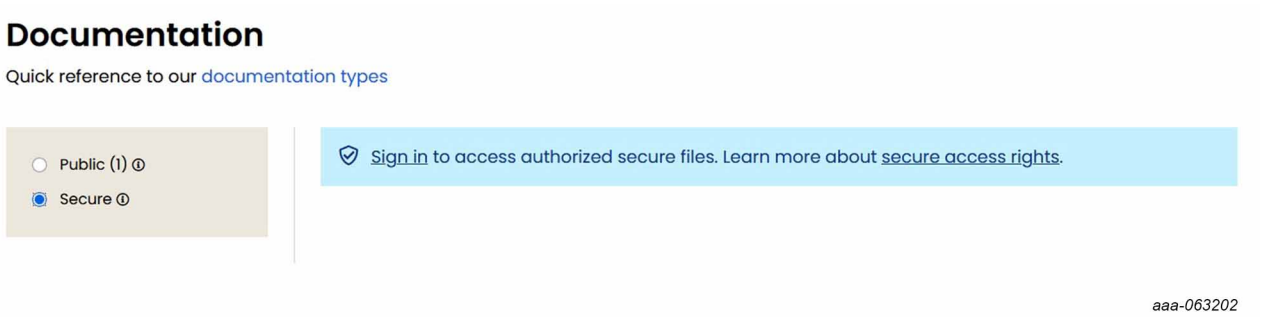


Figure 8. Product Page: Not registered yet

3.1 Secure Files: Create a new user account

To obtain access to the Secure Files, create an account as a first step as shown in Figure 9.

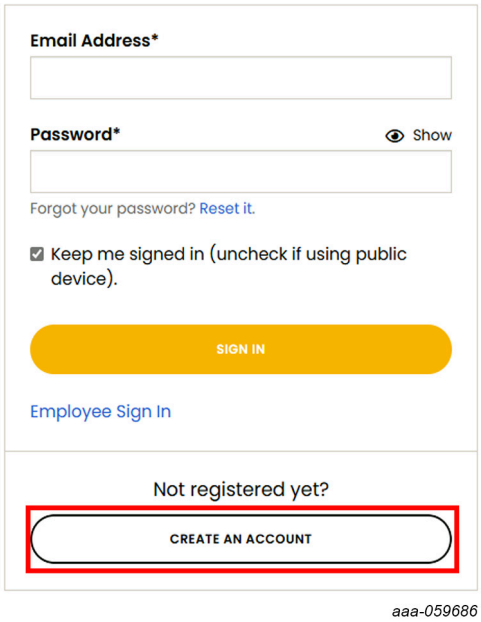


Figure 9. Register for NXP account

Note: *Use a valid business email to get access to the secure files.*

3.2 How to access secure information: Request access rights

Once the account is created, you must request secure access rights to obtain access to the secure files by navigating to the *My NXP Account → Your Account*. See Figure 10.

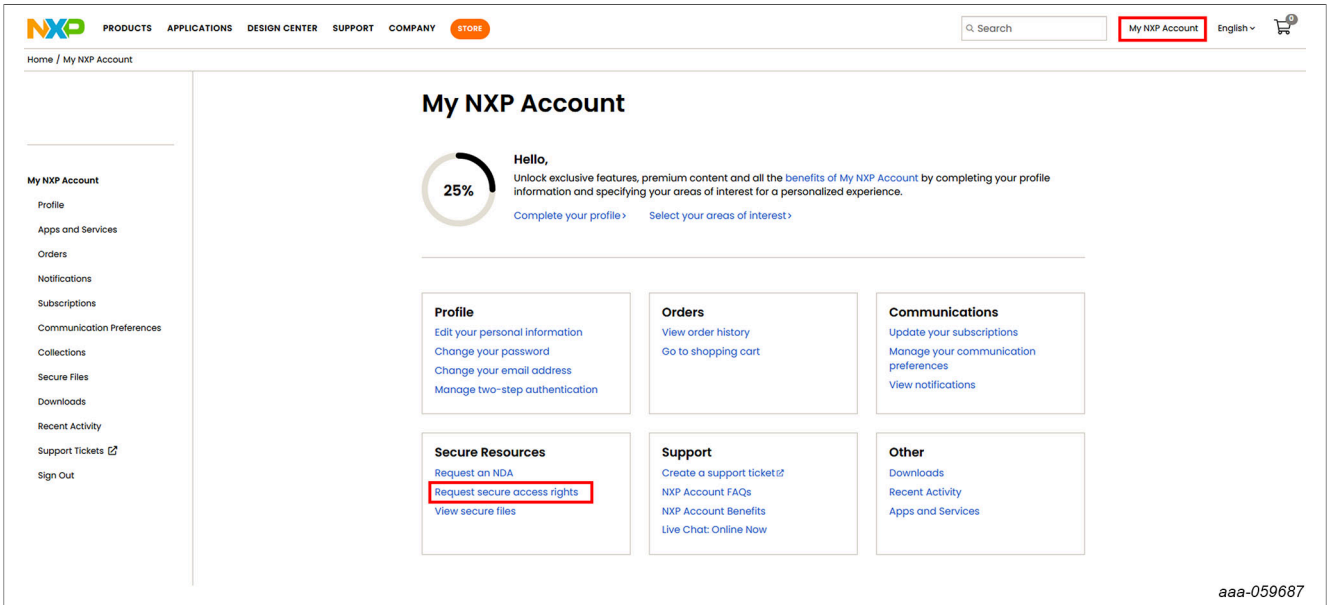


Figure 10. Request secure access rights

You are redirected to fill out the secure access rights form, see Figure 11, which provides NXP with information about your company and your point of contact. The NCJ29D5 documents can only be shared under a nondisclosure agreement (NDA). Therefore, it is mandatory to upload an NDA for obtaining secure access

rights. If you have not signed an NDA with NXP yet, click the **Request an NDA with NXP** button, as can be seen in Figure 11.

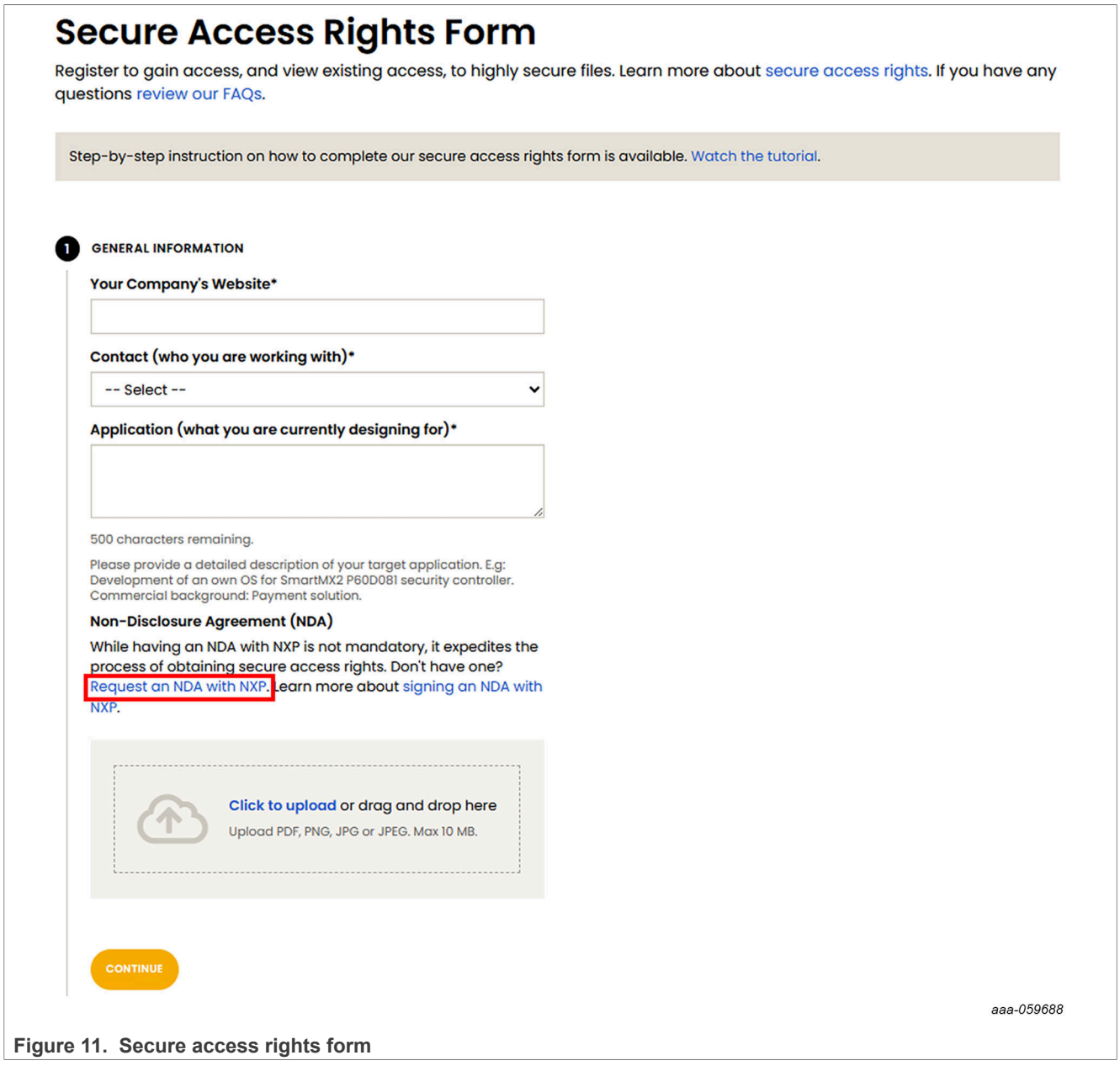


Figure 11. Secure access rights form

You are forwarded to the NDA form. Provide all available and relevant information and submit your request. After your request is processed, you will be contacted by the NXP NDA team.

Once you have filled out the **Secure Access Rights Form** and uploaded the NDA, you are redirected to the **AREAS OF INTEREST** section (see Figure 12) to provide your areas of interest on which you would like to gain secure access rights. Select **Secure Car Access** under the **Security Authentication** tab in order to get access to the NCJ29D5 secure files. Upon completion of this form, you receive a confirmation email and your application will be reviewed.

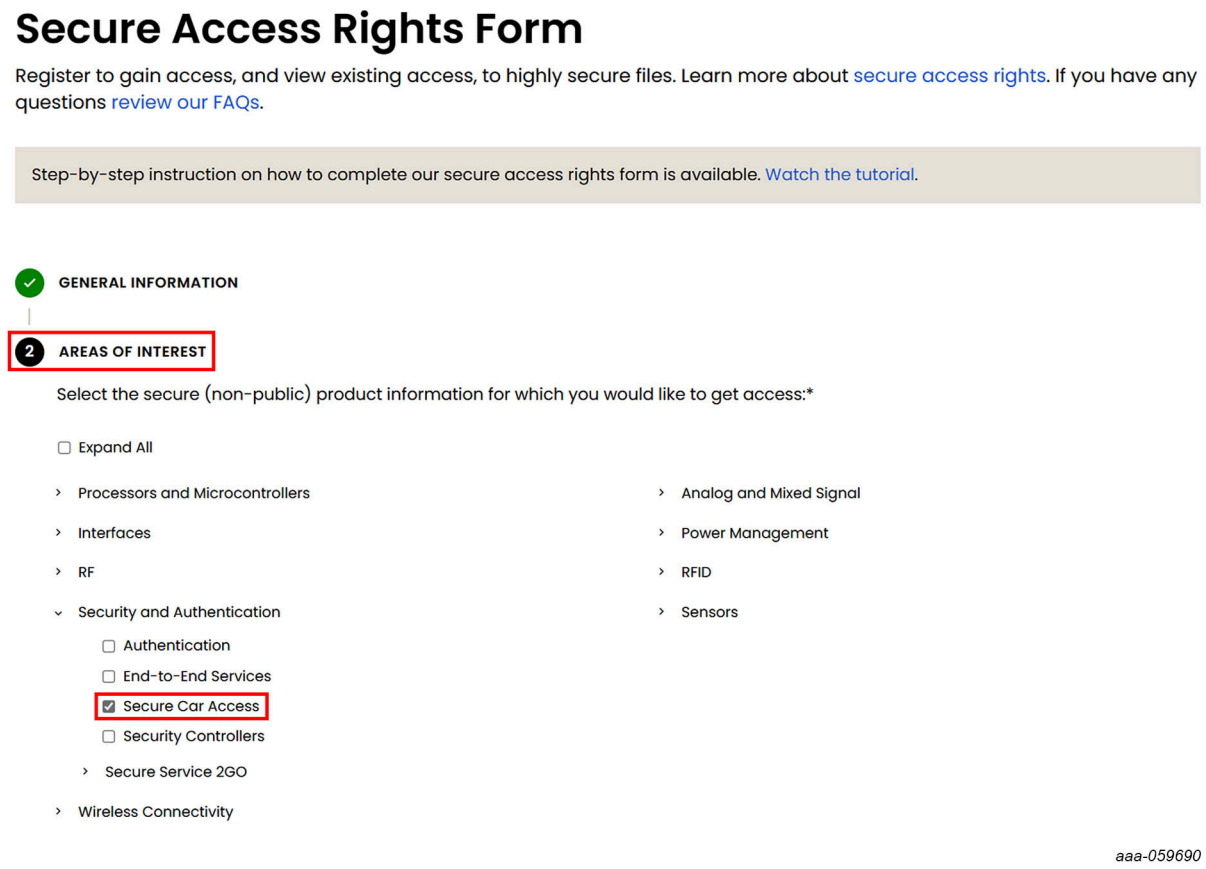


Figure 12. Areas of interest

3.3 Secure Files: Access content

After submitting your application, you will be redirected to the page where you started the request. Your application shows one of the three statuses listed below:

- **In Progress** – once you have requested secure access rights for secure information, your request is subject to review. During this time, you will see “in progress” as the status for your request. Furthermore, you will receive an email confirming that your request was received and is in review.
- **Declined** – if it has been determined that you are ineligible to receive secure access rights to secure information, you will receive an email notifying you of this decision. You may resubmit a request even if you have been declined previously.
- **Granted** – if your request is approved, you have immediate access to the secure information for which you requested secure access rights. To access secure files, you have the possibility to navigate to the *My NXP Account* → *Secure Files*. See Figure 13. Here, you select the Product Category **UWB Trimension** or directly search for the name of the product, NCJ29D5. Most of the files can only be viewed with a valid NDA (see Section 3.2 to request an NDA) and therefore access to each file must be requested. Figure 13 shows the search result.

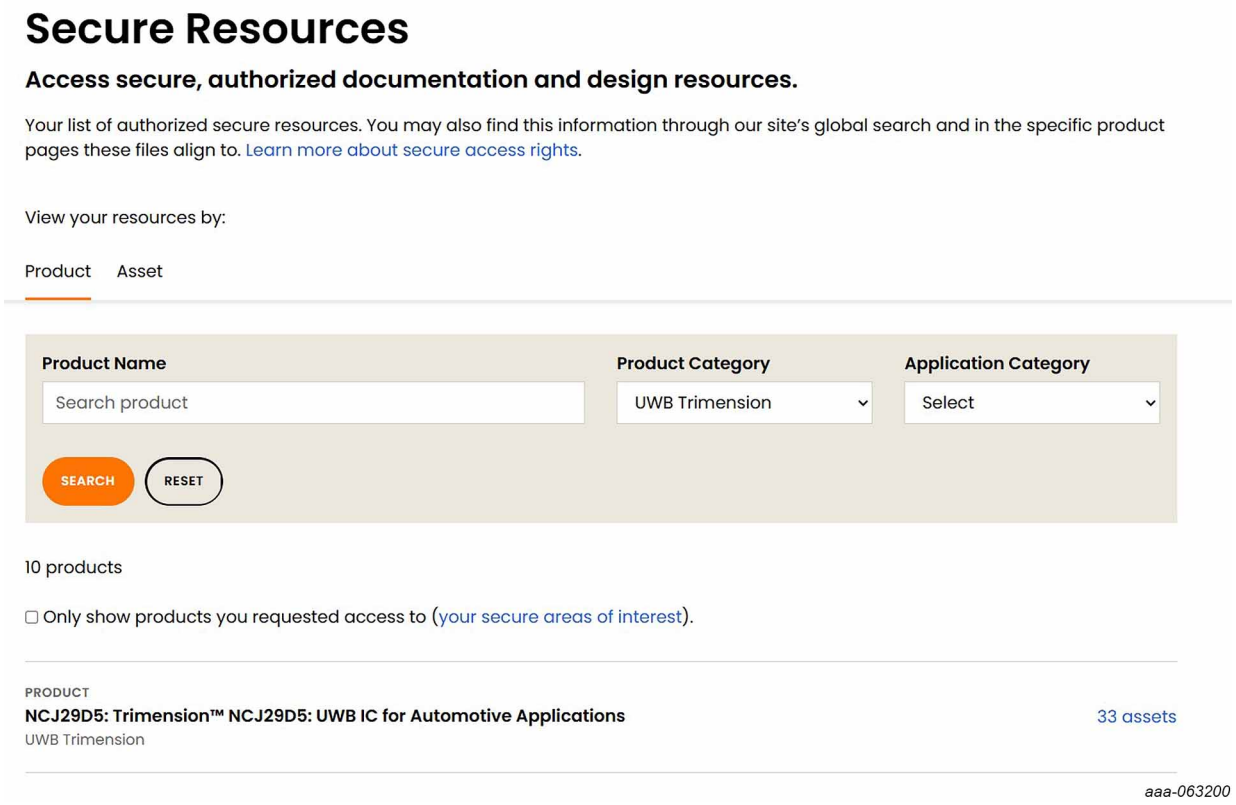


Figure 13. NCJ29D5 Secure Files

You can also access the NCJ29D5 documents over the product website, as shown in Figure 14.

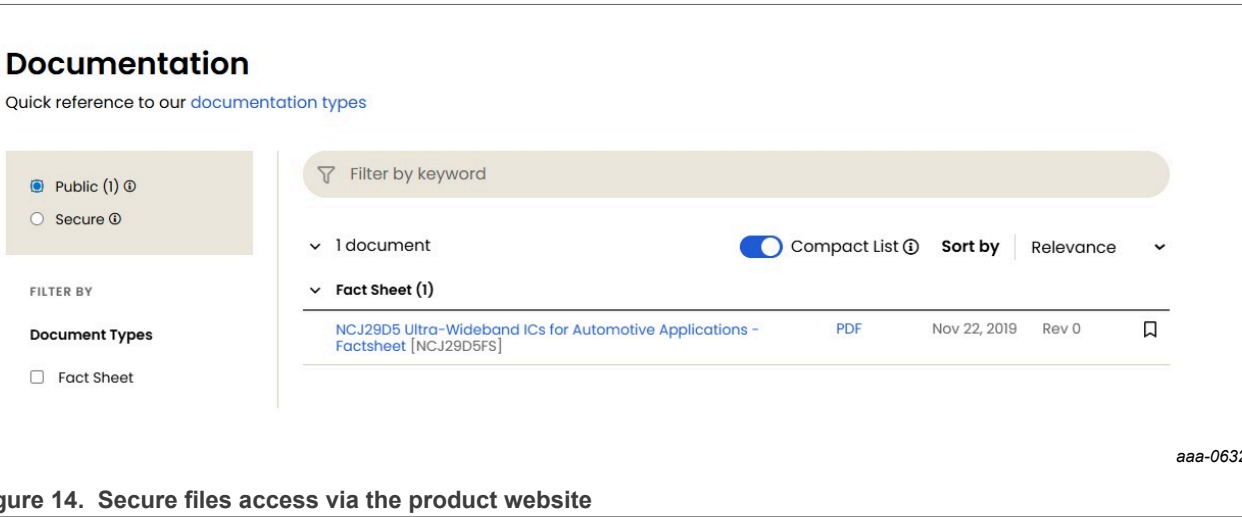


Figure 14. Secure files access via the product website

A good practice is to select all files needed and request access to all files right away, which shortens the time for approval.

Note: *Email notifications are sent by the system if a document has been updated.*

4 Getting the latest software release package

To retrieve the NCJ29D5 software release package and activate your software account, follow the steps below:

1. Go to https://www.nxp.com.
2. Click the **SIGN IN** button. If you do not have a registered account, choose the **CREATE AN ACCOUNT** option and follow the instructions for registering as a new user, described in Section 3.1.
3. Once registration is completed and the account is verified, click **My NXP Account** → **Apps and Services** → **Software Licensing and Support**. See Figure 15. If this option is not visible, use the link https://www.nxp.com/webapp/swlicensing/swlicensingIntermediate.sp.

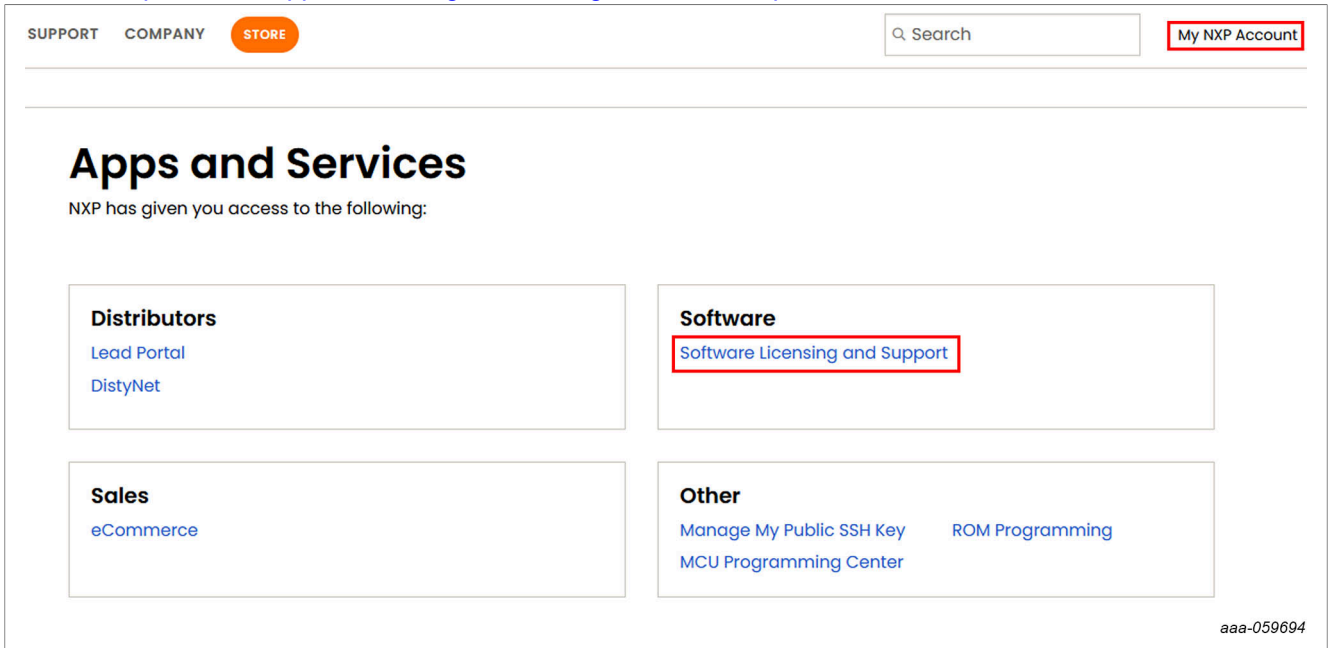


Figure 15. How to access your account on nxp.com

4. Click the **Activate registration code** button as seen in Figure 16. Use the provided activation code to activate your software account for the specific product. See Figure 17. If you do not have an activation code yet, contact your local NXP representative. We recommend strongly to consider creating a shared account, where you can provide access to several users in your organization.

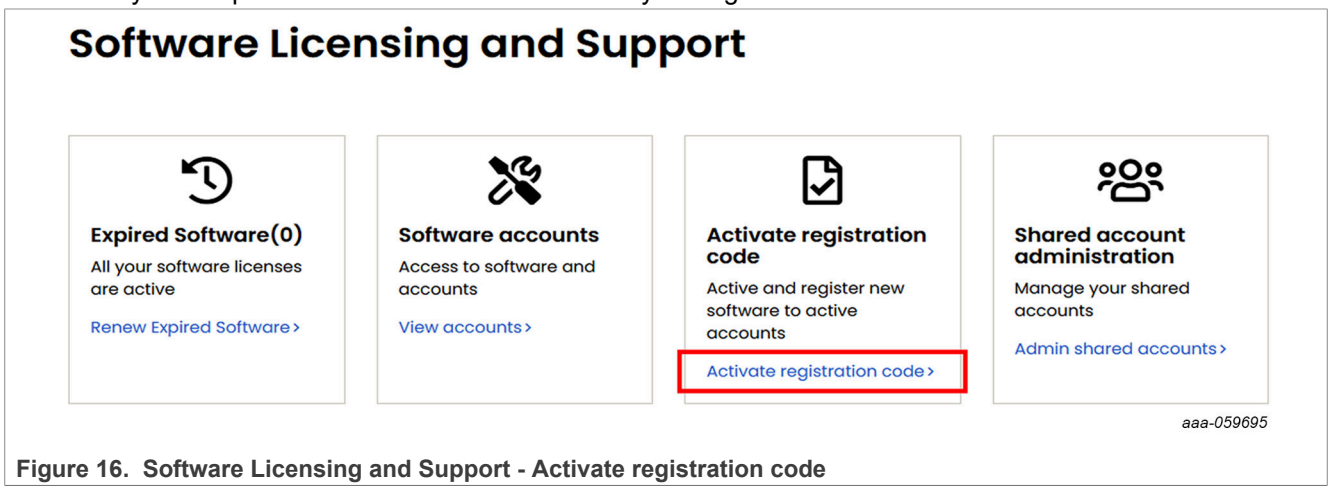


Figure 16. Software Licensing and Support - Activate registration code

Figure 17. Enter the registration code

5. After you have entered your registration code and pressed the **Register Product** button, you will be redirected to the list of accounts, which should be linked to the product key. This is where you can select the account where to add the product (see Figure 18). It is recommended to create a **New Shared Account** and add multiple members from your team working for the same project.

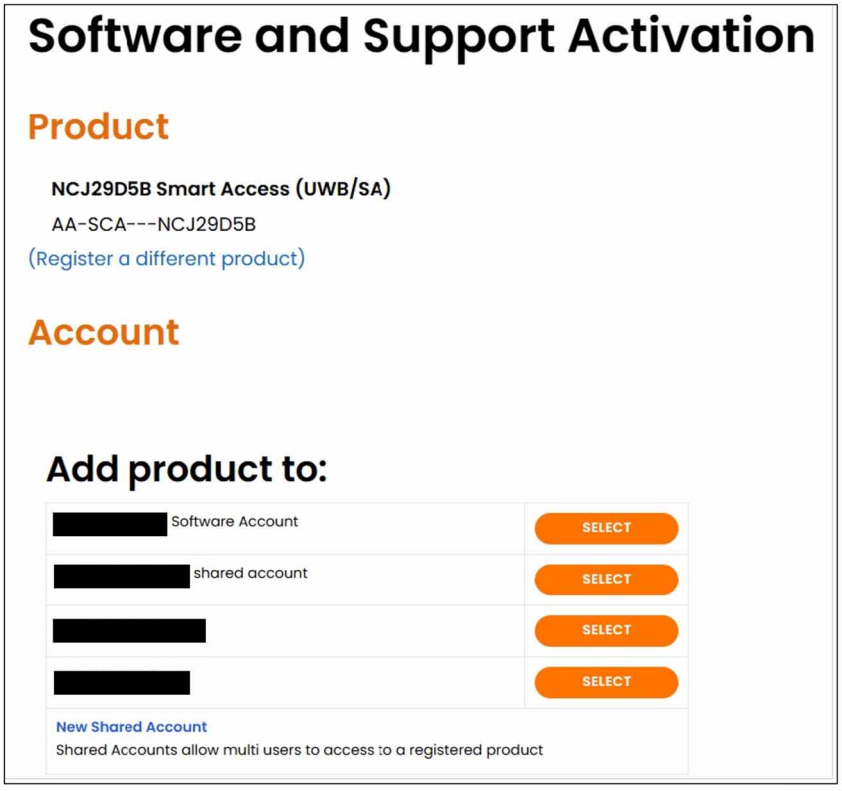


Figure 18. Software and support activation

6. Click the **New Shared Account** button or select an existing shared account. You are forwarded to a page as shown in Figure 19. Here you have the possibility to invite your team colleagues to the shared account by adding their email addresses. You are then redirected to the shared account creation page, as shown in Figure 19.

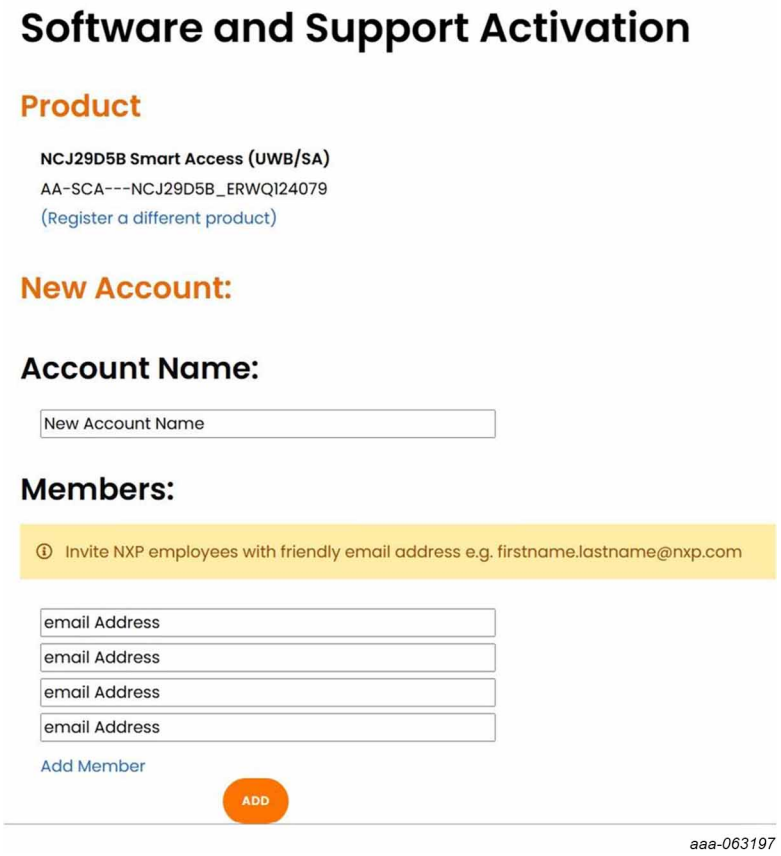


Figure 19. Creating a shared account

7. Once you have activated your software account and created a shared account, you can manage the shared account by clicking the **Shared account administration** button in Figure 20.

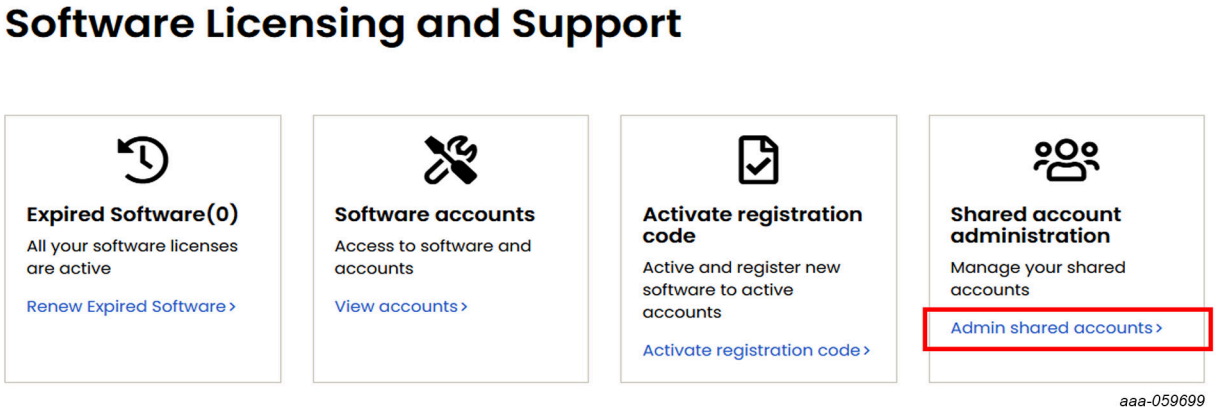


Figure 20. Shared account administration

Consider changing the role of one or more of your team members from Member to Admin, as can be seen in Figure 21. This ensures that the account can still be managed in the event of an absence.

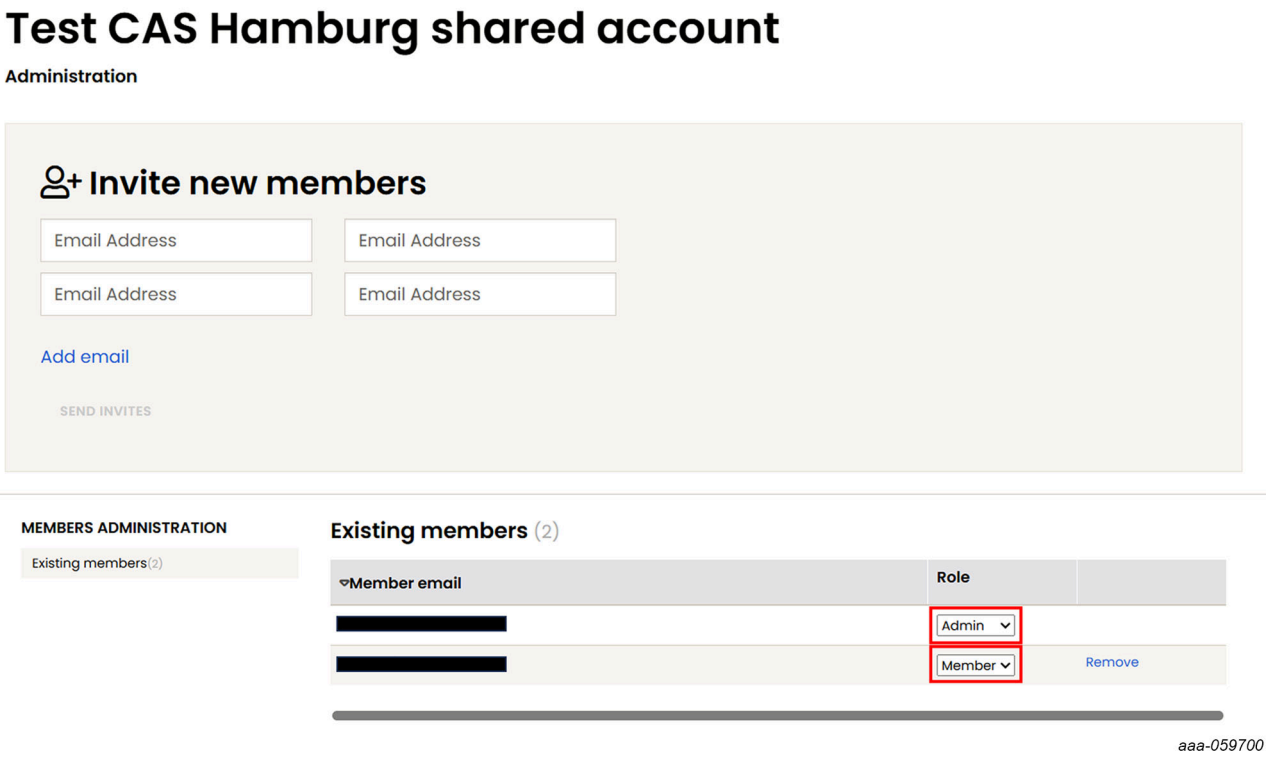


Figure 21. Shared account administration role

8. Once you have activated your software account for the product successfully, you can select the **View accounts** button as shown in Figure 22.

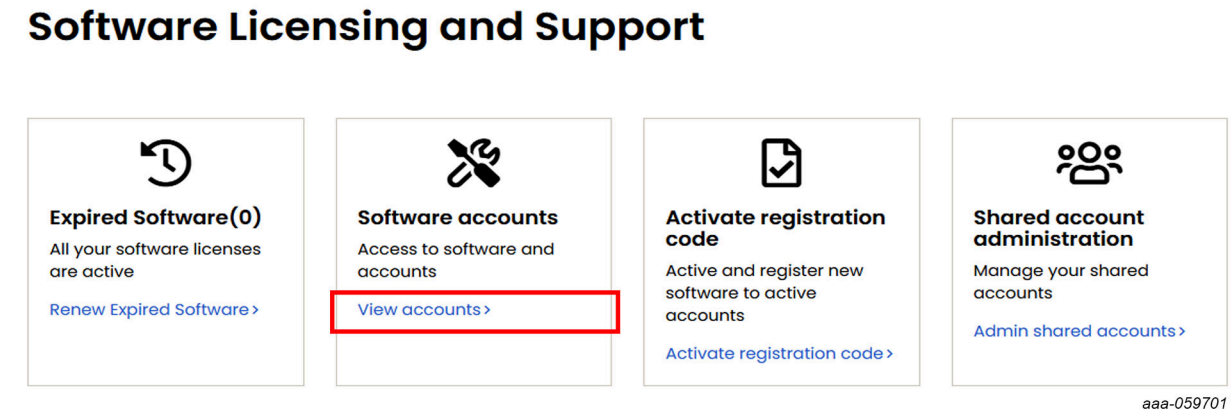


Figure 22. Software Licensing and Support

9. After selecting the **View accounts** button, a list of registered accounts appears. See Figure 23. The next step is to select your Shared Account that you have created for the registered product, as shown in Figure 23.

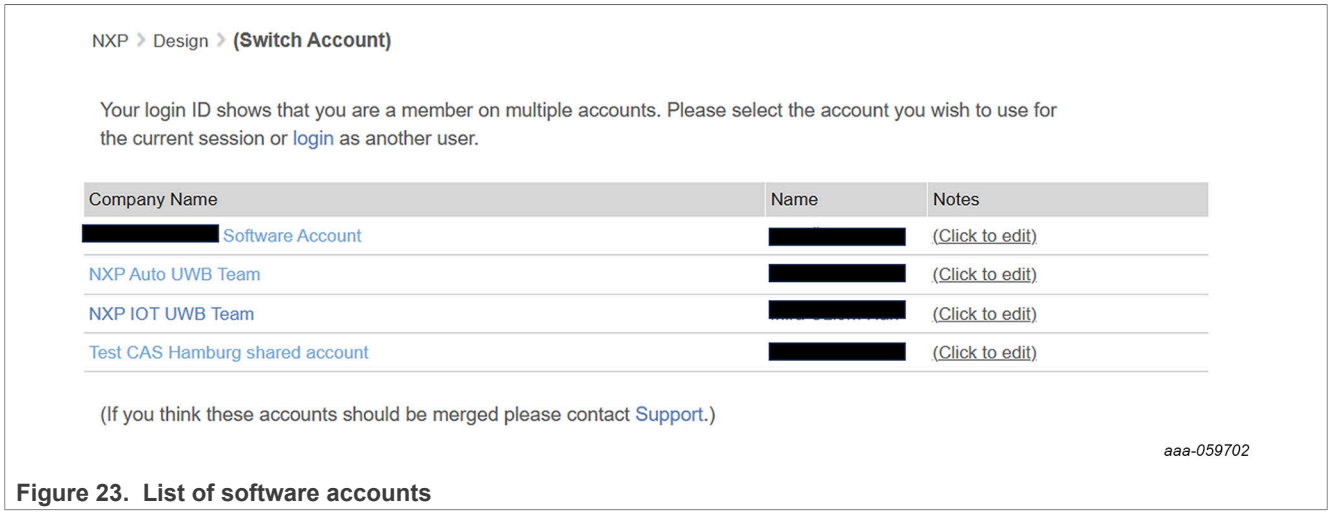


Figure 23. List of software accounts

10. After selecting your Shared Account, you are forwarded to all your registered products. See Figure 24. Choose **Ultra wideband (UWB)**.

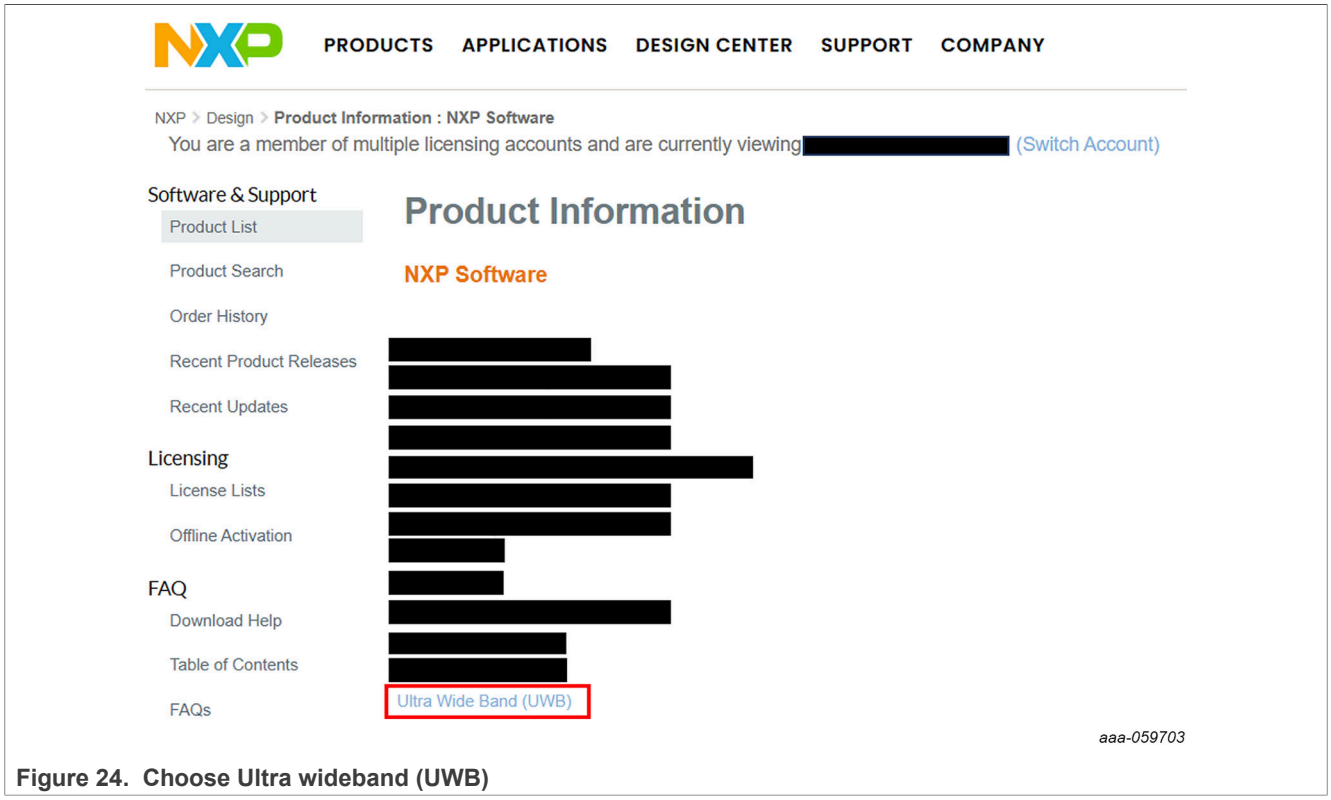


Figure 24. Choose Ultra wideband (UWB)

11. You are forwarded to a list of available software packages for the NCJ29D5 product. See Figure 25. Choose the latest software release from the list.

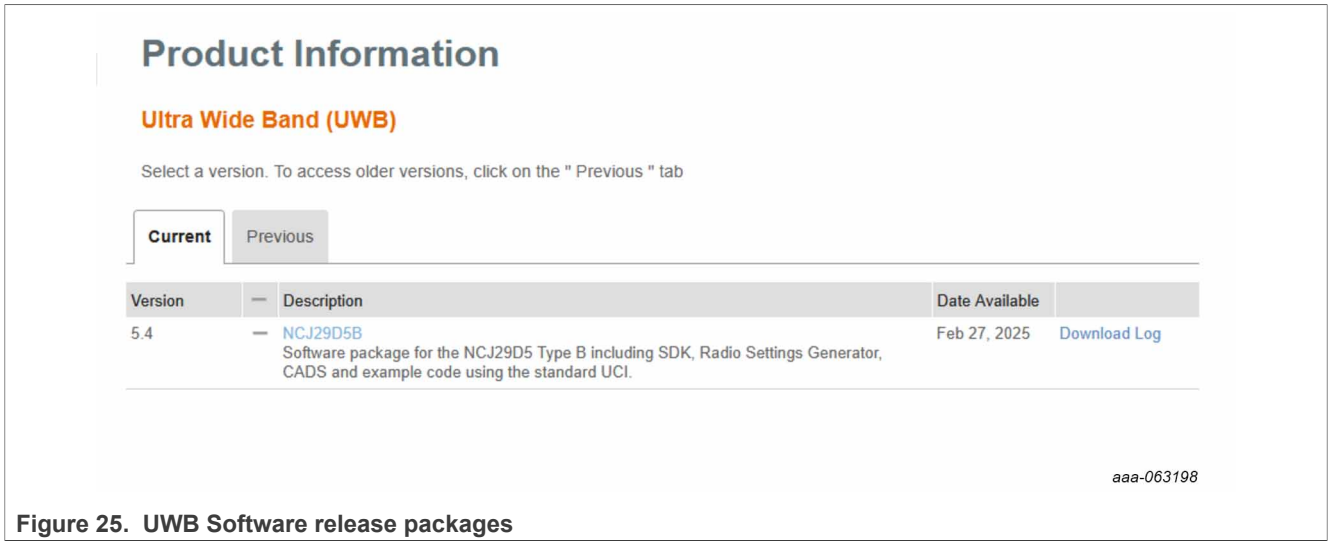


Figure 25. UWB Software release packages

Note: *NXP provides other software packages for NCJ29D5, such as the NCJ29D5 UWBMAC and the UWBMAC AiO. Contact your NXP representative for more information.*

In Figure 25, you see a list of all available software and documents for that specific software release package. Download the latest release for your NCJ29D5 as a zip file.

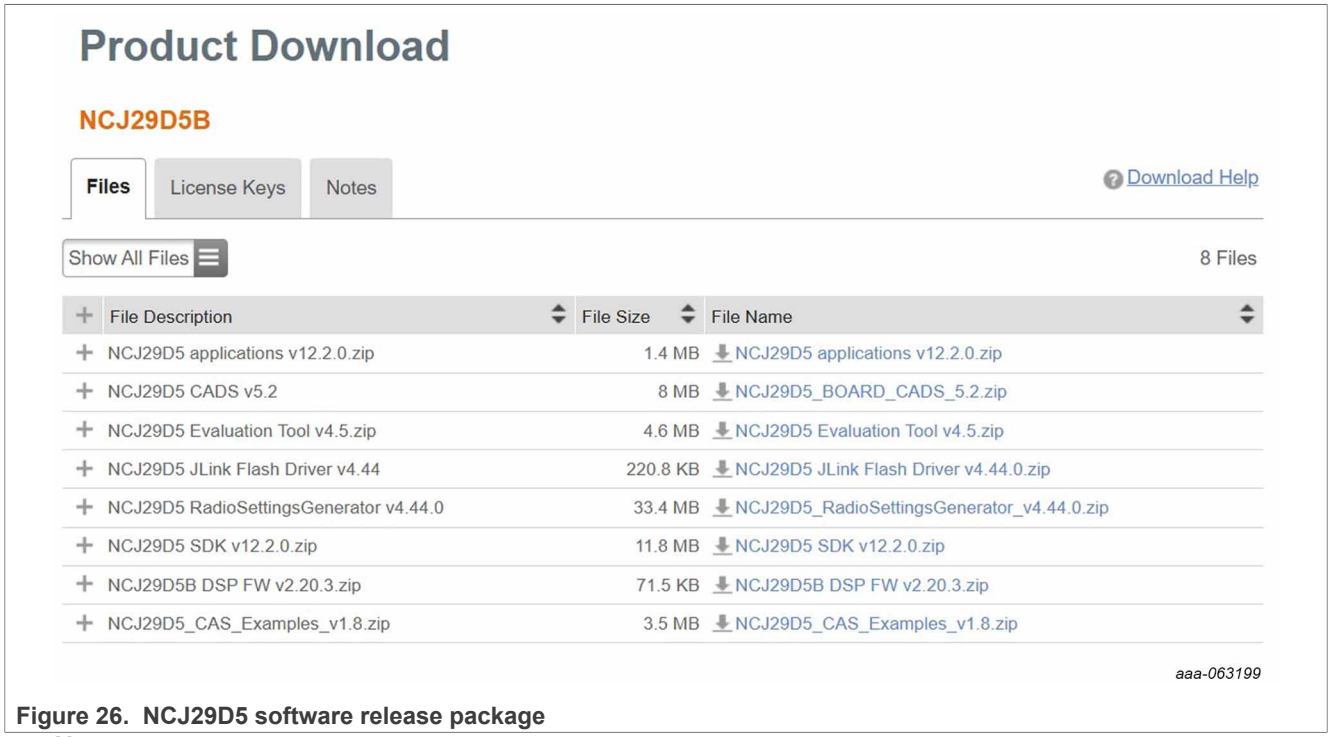


Figure 26. NCJ29D5 software release package

Notes:

- *The product registration code is provided by NXP on request and is only valid for one user account. However, the registration code can also be used by multiple users as a shared account.*
- *Registered users receive email notifications whenever new releases are available.*

5 Abbreviations

Table 2. Abbreviations

Acronym	Description
CE	Consumer Electronics
EMC	Electromagnetic Compatibility
EVB	Evaluation Board
MCU	Microcontroller Unit
NDA	Non Disclosure Agreement

6 References

The following documents and webinars are all available at the following link. Use the newest available version: https://www.nxp.com/mynxp/secure-files?view=product&ticket=ST-3146-b-Nb9DfO-xLl6KmYXhkKM9hj53U-www.nxp.com.

[1] NCJ29D5: Customer Demo Board Release Package
[2] UM1902: NCJ29D5 Quick Start Guide
[3] NCJ29D5: Ranging Application
[4] UM1806: Demoboard Manual for NCJ29D5 Demoboard B0

7 Revision history

Table 3. Revision history

Document ID	Release date	Description
UM12397 v.1.0	14 October 2025	• Initial version

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