UM12283 Getting access to the NCJ29D6 customer support package Rev. 1.0 — 9 April 2025

User manual

Document information

Information	Content
Keywords	NCJ29D6, Demo Board, Customer Support Package, Secure Files, Software Release
Abstract	This document describes how to get started with the customer support package of NXP's NCJ29D6 UWB chip. It describes the hardware and the software provided by NXP, that is required to run the NCJ29D6 UWB demonstration applications.



1 Introduction

This document explains how to get started with the NCJ29D6 customer support package. The package includes the NCJ29D6 demo board, the latest drivers, a comprehensive Software Development Kit (SDK), multiple examples, and a Testware application software. The demo board is delivered with the Testware application preflashed on the NCJ29D6. It can be connected with a USB-C cable to control the NCJ29D6.

This document is structured as follows:

- <u>Section 2</u> provides an overview of the hardware components required to perform ranging and radar.
- <u>Section 3</u> details the registration process to access the documentation.
- <u>Section 4</u> 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 <u>https://www.nxp.com/products/NCJ29D6</u>.

2 Getting the hardware

This section lists the hardware components needed to run the NCJ29D6 Testware application examples. The package includes a NCJ29D6 demo board (LID2580) with a soldered IC is shown in <u>Figure 1</u>. The application examples require either one or two NCJ29D6 demo boards. The two possible demo setups are explained in <u>Section 2.3</u> and in <u>Section 2.4</u>.

2.1 NCJ29D6 demo board setup

Figure 1 shows the demo board with the main interfaces.



Figure 1. NCJ29D6 demo board with main interfaces

- CAN: Sub-D9 connector and pinheader to power the board and to connect it to a CAN bus network
- **USB-C**: Power the board and connect to a PC via the integrated QSPI to USB adapter
- **UART:** Pinheader to connect UART and 5 V board supply
- SWD: Debug interface for flashing and debugging of NCJ29D6

- TRX1: Antenna connector 1
- TRX2: Antenna connector 2

The device is designed to operate in two different communication modes. It can either run as a USB device connected to a PC or as a device within a CAN bus network. For more details on general device features and parameters, refer to the UM12152 LID2580 NCJ29D6 & FS24 customer demo board user manual [3]. The LID2580 NCJ29D6 customer demo board user manual is part of the NCJ29D6: Demo board Release Package [1] available via the product website of NXP at https://www.nxp.com/products/NCJ29D6.

The NCJ29D6 demo board and the antenna boards, see <u>Section 2.2</u>, are available on the product website of NXP <u>https://www.nxp.com/products/NCJ29D6</u>. Figure 2 shows a snippet from the website with available hardware components that can be ordered.

Overview Product Details Do	ocumentation Design Reso	BUY/PARAMETRICS PACKAGE/QUAL	лт у
Hardware Quick reference to our board typ	105.		
• NXP (4)	Filter by keyword		
PRITER BY Development Boards/Designs Development Hardware Evaluation and Development Boards	4 hardware offerings	Sort by Relevance DEVELOPMENT HARDWARE Dual Patch Antenna for UWB CH9 Applications LID2596	ч П
		EVALUATION AND DEVELOPMENT BOARDS Trimension ^{on} NCJ29D6 Evaluation Board for Automotive Ultra-Wideband LID2580	6
	200 201	EVALUATION AND DEVELOPMENT BOARDS TE Antenna Board for UWB Applications UD2506	0

2.2 UWB antenna types

The different NXP UWB antenna boards are shown in <u>Table 1</u>. 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/NCJ29D6.

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Table 1. UWB antenna types

Туре	Application	Image
Dual patch antenna board for UWB CH9 applications ^[1]	Ranging, radar and AoA	UHB Ch9 double patch fion antenna
TE antenna board ^[1]	Ranging and radar	eaa-059678

[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 that is also listed on the website, will be discontinued, and is not mentioned in this document.

2.3 Hardware setup for ranging

For the ranging setup the following components are needed:

- 2x NCJ29D6 demo boards
- 2x TE antenna boards
- 2x USB-C to USB-A cables
- 1x PC with Windows 10 (or higher) installed



Figure 3. Ranging setup with two NCJ29D6 demo boards

To run the ranging demo, attach the TE antenna to the TRX1 (pin P20) SMA-connector on each demo board as shown in <u>Figure 3</u>. Connect the USB-C to USB-A cables to the devices and the PC, respectively. Refer to

the document *NCJ29D6 Quick Start Guide* [2] on how to get started with the first customer application support (CAS).

2.4 Hardware setup for radar

For the radar setup the following components are needed:

- 1x NCJ29D6 demo board
- 1x Dual patch antenna board
- 1x USB-C to USB-A cable
- 1x PC with Windows 10 (or higher) installed



Figure 4. Radar setup with one NCJ29D6 demo board

To run the radar demo, attach the dual patch antenna on the demo board as shown in <u>Figure 4</u>. Then, connect the USB-C to USB-A cable to the device and the PC. For the radar, refer to the document *NCJ29D6 Quick Start Guide* [2] on how to get started with the first radar CAS example.

3 Getting the latest documentation

The latest documentation for the NCJ29D6, such as data sheet, user guide, and application notes, are available for download from NXP's website (<u>https://www.nxp.com</u>) in the **Secure Files** page (*My NXP Account* \rightarrow *Secure Files*) and also on the product website (<u>https://www.nxp.com/products/NCJ29D6</u>). 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 5.

Getting access to the NCJ29D6 customer support package

Documentation Quick reference to our documen	tation types.		
Public (3)Secure ①	√ Filter by keyword		
	3 documents	Sort by Relevance	~
FILTER BY	FACT SHEET NC 12906: Ultra-Wideband IC Combining Ranging and Radar Fact Sheet		п
Document Types	UPDATED		Χ
Fact Sheet	PDF KeV 2 JULI 22, 2023 400.4 KB NGJ23DOUWBFS ENGIIST		
 Training Presentation White Paper 	TRAINING PRESENTATION UWB Radar for Automotive Applications – Extended Introductory Session PDF Rev 0 Oct 19, 2022 1.9 MB TP-UWB-RADAR-FOR-AUTOMOTIVE-APPLICATIONS English		Д
	WHITE PAPER UWB Radar Child Presence Detection Whitepaper PDF Rev 0 Feb 11, 2022 111.0 KB RADAR-CHILD-DETECTION-WP English, 中文	a	aaa-05

Figure 5. Product page: Public documents

In <u>Figure 6</u>, no other documents are listed under the **Secure** section without logging in with an nxp.com account.

Documentatio	n mentation types.	
○ Public (3)◎ Secure ⊙	Sign in to access authorized secure files. Learn more about <u>secure access rights</u> .	
Figure 6. Product Page	Not registered yet	aaa-059685

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 7.

	Email Address*	
	Password*	Show
	Forgot your password? Reset it.	
	SIGN IN	
	Employee Sign In	
	Not registered yet?	
	aaa	-059686
Figure 7. 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* \rightarrow *Your Account* (see Figure 8).

Home / My NXP Account	LICATIONS DESIGN CENTER SUPPORT COMPANY STOLE	My NXP Account English ~
My NXP Account Profile Apps and Services Orders	Hello, Unick exclusive features, premium content and all the benefits of My NXP Account by completing your profile 25% Hello, Complete your profile Select your areas of interest.	e
Collens Notifications Subscriptions Communication Preferences Collections Secure Files Downloads	Profile Orders Communications Edit your personal information View order history Update your subscriptions Change your password Go to shopping cart Manage your communication preferences Change your email address View notifications View notifications	
keceni Activity Support Tickets [2] Sign Out	Secure Resources Support Other Request on NDA Create a support ticket@ Downloads Request secure access rights NXP Account FAQs Recent Activity View secure files NXP Account Benefits Apps and Services Live Chat: Online Now Live Chat: Online Now Downloads	
Figure 8. Requ	est secure access rights	aaa-059687

You are redirected to fill out the secure access rights form, see <u>Figure 9</u>, which provides NXP with information about your company and your point of contact. The NCJ29D6 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 9.

Secure Access Rights Form Register to gain access, and view existing access, to highly secure files. Learn more about secure access rights. If questions review our FAQs.	you have any
Step-by-step instruction on how to complete our secure access rights form is available. Watch the tutorial.	
GENERAL INFORMATION	
Contact (who you are working with)*	
Application (what you are currently designing for)*	
500 characters remaining. Please provide a detailed description of your target application. E.g: Development of an own OS for SmartMX2 P60D081 security controller. Commercial background: Payment solution.	
Non-Disclosure Agreement (NDA) While having an NDA with NXP is not mandatory, it expedites the process of obtaining secure access rights. Don't have one? Request an NDA with NXP. Learn more about signing an NDA with NXP.	
Click to upload or drag and drop here Upload PDF, PNG, JPG or JPEG. Max 10 MB.	
CONTINUE	aaa-059688
ure 9. 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** as well as uploaded the NDA, you will be redirected to the **AREAS OF INTEREST** (see Figure 10) to provide your intrested areas 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 NCJ29D6 secure files. Upon completion of this form, you will receive a confirmation email and your application will be reviewed.

Secure Access Rights Fo Register to gain access, and view existing access, to h questions review our FAQs.)ITTC Nighly secure files. Learn more about secure access rights. If you have any
Step-by-step instruction on how to complete our secure a	access rights form is available. Watch the tutorial.
GENERAL INFORMATION AREAS OF INTEREST Select the secure (non-public) product information for Expand All	which you would like to get access:*
 Processors and Microcontrollers 	Analog and Mixed Signal
> Interfaces	> Power Management
> RF	> RFID
 Security and Authentication Authentication End-to-End Services Secure Car Access Security Controllers Secure Service 2GO Wireless Connectivity 	> Sensors
	aaa-059690
igure 10. 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 will show one of the three status 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 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. Note that 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. In order to access secure files, you have the possibility to navigate to the My
 NXP Account → Secure Files (see Figure 11). Here, you select the Product Category UWB Trimension or
 directly search for the name of the product, NCJ29D6. Most of the files can only be viewed with a valid NDA
 (see Section 3.2 to request NDA) and therefore access to each file needs to be requested. In Figure 11 show
 the search result.

Access secure, authorized documentation and a	design resources.		
Your list of authorized secure files. You may also find this information these files align to. Learn more about secure access rights.	on through our site's global search	and in the specific produ	uct pages
View your files by:			
● Product ○ File			
Product Name	Product Category	Application Category	
ncj29d6	UWB Trimension 🗸 🗸	Select	~
I product ☐ Only show products you requested access to (your secure areas of intere	st)		
I product Only show products you requested access to (your secure areas of intere PRODUCT	st)		
1 product ☐ Only show products you requested access to (your secure areas of intere PRODUCT NCJ29D6: Trimension [™] NCJ29D6: Secure UWB IC for A Radar Applications	^{st)} Automotive Ranging and	30	files
PRODUCT NCJ29D6: Trimension [™] NCJ29D6: Secure UWB IC for A Radar Applications UWB Trimension	^{st)} Automotive Ranging and	30	files
I product ☐ Only show products you requested access to (your secure areas of intere PRODUCT NCJ29D6: Trimension [™] NCJ29D6: Secure UWB IC for A Radar Applications UWB Trimension To view certificates and manage secure access rights, go to your p	st) Automotive Ranging and	30	files
I product ☐ Only show products you requested access to (your secure areas of intere PRODUCT NCJ29D6: Trimension [™] NCJ29D6: Secure UWB IC for A Radar Applications UWB Trimension To view certificates and manage secure access rights, go to your p	st) Automotive Ranging and profile.	30	files aaa-059691

You can also access the NCJ29D6 documents over the product website as can be seen in Figure 12.

ck reference to our docume	entation types.	
Public (3)	√ Filter by keyword	
🖲 Secure (30) 🛈	1-5 of 30 documents	Sort by Relevance 🗸
ILTER BY		
ocument Types		
Application Note		
Data Sheet		
Supporting Information	USER MANUAL	
Training Presentation	NCJ29D6: Security User Manual	
User Guide	PDF Rev 2.0 Nov 6, 2024 English	
User Manual	Restricted • Authorized For: Only you	
Access Status (i)	USER GUIDE	
Select v	NCJ29D6: Quick Start Guide	
	PDF Rev 1.3 Oct 14, 2022 English	
	Restricted • Authorized For: Only you by request	

A good practice is to select all files needed and request access to all files right away which will shorten 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 NCJ29D6 software release package and activate your software account, follow the steps below:

- 1. Go to <u>https://www.nxp.com</u>.
- 2. Click the **SIGN IN** button. If you do not have a registered account, choose **CREATE AN ACCOUNT** option and follow the instruction for registering as a new user described in <u>Section 3.1</u>.
- 3. Once registration is completed and the account is verified, click *My NXP Account* → *Apps and Services* → *Software Licensing and Support* (see Figure 13). If this option is not visible, use the link <u>https://www.nxp.com/webapp/swlicensing/swlicensingIntermediate.sp</u>.

RT COMPANY STORE	Q Search My	NXP Ad
Apps and Services	3	
XP has given you access to the following:		
Distributors Lead Portal DistyNet	Software Software Licensing and Support	
Sales eCommerce	Other Manage My Public SSH Key ROM Programming MCU Programming Center	
		aaa-

4. Click the Activate registration code button as seen in Figure 14 and use the provided activation code to activate your software account for the specific product (see Figure 15). 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.

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Expired Software(0)	Software accounts	Activate registration code	Shared account administration			
are active Renew Expired Software>	accounts	Active and register new software to active accounts	Manage your shared accounts			
		Activate registration code>	Admin shared accounts >			

Figure 14. Software Licensing and Support - Activate 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, where you can select the account where to add the product (see <u>Figure 16</u>). It is recommended to create a **New Shared Account** and add multiple members from your team working for the same project.

Software and Support Activ	ation
Product	
Ranger5 AA-SCANCJ29D6 (Register a different product)	
Account	
Add product to:	
SELECT SELECT	
Test CAS Hamburg shared account SELECT	i.
New Shared Account Shared Accounts allow multi users to access to a registered product	
Figure 16. Software and support activation	aaa-059697

 Click the New Shared Account button or select an existing shared account. You are forwarded to the page as in <u>Figure 17</u>. Here you have the possibility to invite your team colleagues to the shared account by adding their email addresses. You are forwarded to a shared account creation page, as shown in <u>Figure 17</u>.

Software ar	nd Support Activation	
Product		
Ranger5		
AA-SCANCJ29D6		
(Register a different produ	ict)	
New Account:		
Account Name	:	
New Account Name		
Invite NXP employees w	vith friendly email address e.g. firstname.lastname@nxp.co	m
email Address		
email Address email Address		
email Address email Address email Address		
email Address email Address email Address email Address		
email Address email Address email Address email Address Add Member		

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 18.



Consider changing the role of one or more of your team members from Member to Admin, as can be seen in <u>Figure 19</u>. This ensures that the account can still be managed in the event of an absence.

Test CAS Har	nburg shared c	iccount		
음+ Invite new n	nembers			
Email Address	Email Address			
Email Address	Email Address			
Add email				
MEMBERS ADMINISTRATION	Existing members (2)			
Existing members(2)	▽Member email		Role	
			Admin 🗸	
			Member 🗸	Remove
				aaa-059700
Figure 19. 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 <u>Figure 20</u>.

Ŀ	×	Ð	ŝ
Expired Software(0) All your software licenses	Software accounts Access to software and	Activate registration code	Shared account administration
Renew Expired Software >		software to active	accounts
		Activate registration code >	Admin shared accounts>

 After selecting the View accounts button, you will see the list of registered accounts in Figure 21. The next step is to select your Shared Account that you have created for the registered product, as shown in Figure 21.

NXP > Design > (Switch Account) Your login ID shows that you are a member on multiple accounts. Please set the current session or login as another user.	ect the acco	unt you wish to use for	
Company Name	Name	Notes	
Software Account		(Click to edit)	
NXP Auto UWB Team		(Click to edit)	
NXP IOT UWB Team		(Click to edit)	
Test CAS Hamburg shared account		(Click to edit)	
(If you think these accounts should be merged please contact Support.)		aaa-0	059702
Figure 21. List of software accounts			

10. After selecting your Shared Account, you will be forwarded to all your registered products, as can be seen in <u>Figure 22</u>. Choose **Ultra wideband (UWB)**.

Getting access to the NCJ29D6 customer support package

NXP > Design > Product Info	ormation : NXP Software
You are a member of m	ultiple licensing accounts and are currently viewing (Switch Account)
Software & Support	Product Information
Product List	Froduct mormation
Product Search	NXP Software
Order History	
Recent Product Releases	
Recent Updates	
Licensing	
License Lists	
Offline Activation	
FAQ	
Download Help	
Table of Contents	
	Like Mide Dead (LIMD)

11. You are forwarded to a list of available software packages for the NCJ29D6 product (see Figure 23). Choose the latest software release from the list.

Produ	IC	t Information					
Ultra Wid	le B	and (UWB)					
Select a vers	sion.	To access older versions, click on the " Previous " tab					
Current	Pre	vious					
Version	Pre	Description	Date Available				
Current Version	Prev	Description NCJ29D6 UWBMAC AiO Evaluation UWB MAC AiO software package for the NCJ29D6, Evaluation License.	Date Available Dec 20, 2024	Download Log			

Figure 23. UWB Software release packages

Note: We are also providing other software packages for NCJ29D6 like the NCJ29D6 UWBMAC AiO as can be seen in upper figure. Contact your NXP representative for more information. In Figure 23, you see a list of all available software and documents for that specific software release package. Download the latest release for your NCJ29D6 as a zip file.

Getting access to the NCJ29D6 customer support package

NCJ29D6			
Files License Keys Notes			wnload He
			0.53
how All Files			8 Fil
how All Files	File Size	File Name	8 Fil
how All Files	✦ File Size ✦ 5.7 MB	File Name ▲ NCJ29D6 CAS Examples v14.0.0.zip	8 Fil
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 how All Files File Description NCJ29D6 CAS Examples v14.0.0.zip NCJ29D6 CAS Examples v14.1.0.zip NCJ29D6 CAS Examples v14.2.0.zip NCJ29D6 CAS Examples v14.2.0.zip NCJ29D6 Foundation v21.0.0.zip NCJ29D6 NDP v16.0.1.zip NCJ29D6 Release notes v14.0.pdf NCJ29D6 SWUP Host I/F Examples v2.4.0.zip 	 File Size ◆ 5.7 MB 6.4 MB 6.4 MB 47 MB 238.9 KB 578.6 KB 1.2 MB 	File Name ▲ NCJ29D6 CAS Examples v14.0.0.zip ▲ NCJ29D6 CAS Examples v14.1.0.zip ▲ NCJ29D6 CAS Examples v14.2.0.zip ▲ NCJ29D6 Foundation v21.0.0.zip ▲ NCJ29D6 NXP Domain Package 16.0.1.zip ▲ RN00065 NCJ29D6 SW Release notes 14.0.pdf ▲ NCJ29D6 SWUP hostif examples 2.4.0.zip	8 Fil

Notes:

- a. 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.
- b. Registered users receive email notifications whenever new releases are available.

5 Abbreviations

Table 2. Abbrevia	ations
Acronym	Description
CE	Consumer Electronics
EMC	Electromagnetic Compatibility
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] NCJ29D6: Customer Demo Board Release Package
- [2] NCJ29D6: Quick Start Guide
- [3] UM12152 LID2580 NCJ29D6 & FS24 customer demo board user manual

Revision history

Rev	Date	Description
1.0	09 April 2025	Initial version

Getting access to the NCJ29D6 customer support package

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