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# SGA301TAA VXT Vector Transceiver Measurement Accelerator

# Notices

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## Edition

Edition 1, January 2026

Published by:  
Keysight Technologies  
1400 Fountaingrove Parkway  
Santa Rosa, CA 95403

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### CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

### WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

## Where to Find the Latest Information

Documentation is updated periodically. For the latest information about this instrument, including firmware upgrades, application information, and product information, search "SGA301TAA" at [www.keysight.com](http://www.keysight.com)

To receive the latest updates by email, subscribe to Keysight Email Updates at the following URL:

<http://www.keysight.com/find/MyKeysight>

Information on preventing analyzer damage can be found at:

[www.keysight.com/find/PreventingInstrumentRepair](http://www.keysight.com/find/PreventingInstrumentRepair)

## Is your product software up-to-date?

Periodically, Keysight releases software updates to fix known defects and incorporate product enhancements. To search for software updates for your product, go to the Keysight Technical Support website at:

<http://www.keysight.com/find/techsupport>



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# Contents

# 1 Overview

The following topics can be found in this section:

**“Introduction” on page 8**

**“Get the Software” on page 9**

## Introduction

Keysight SGA301TAA is productivity software that smartly manages the IVI drivers of VXT Vector Transceivers and PathWave Measurements software for higher programming efficiency. It provides programmers with an easy-to-use and highly efficient programming interface to manage their sophisticated test plans and improve measurement speed in multiple areas including power servo, ACPR/SEM/Harmonics, and EVM.

This software provides a consolidated programming interface for programmers, eliminating the complexity of managing hardware IVI drivers and measurement plug-ins separately. It supports multiple programming environments:

- C/C++
- .NET
- Python

## Supported Models

The SGA301TAA measurement accelerator supports the following Keysight products.

- M9421A VXT Vector Transceiver
- M9410A/M9411A VXT Vector Transceiver
- M9415A/M9416A VXT Vector Transceiver
- E6680A/E6680E Wireless Test Set

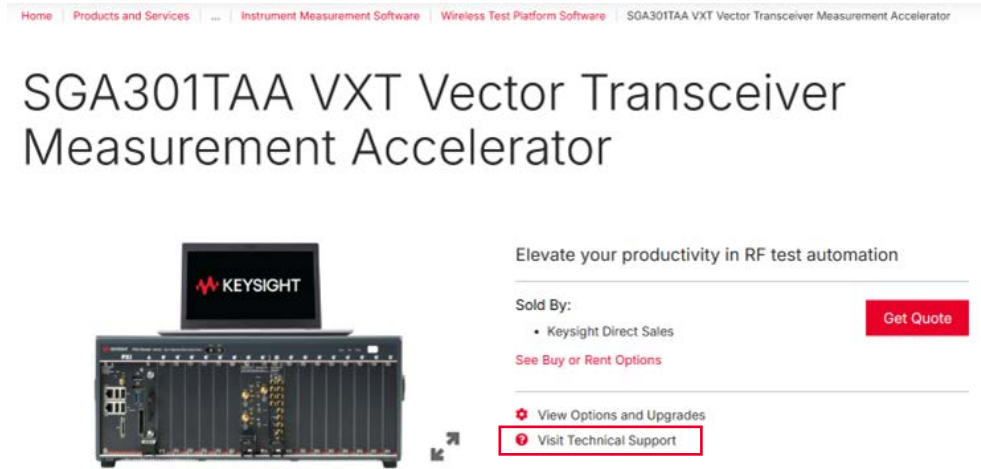
## Supported Measurements

The SGA301TAA measurement accelerator supports the following measurements.

- Power servo
- ACPR/SEM/Harmonics
- EVM

## Get the Software

To get the software installer, search "SGA301TAA" at [www.keysight.com](http://www.keysight.com) to access the SGA301TAA product page as below.



Click **Visit Technical Support** and **Drivers, Firmware and Software** Tab to get the software download page.

Then, click **Download** button and the software installer will be downloaded immediately.

Overview  
Get the Software

## 2 Software Preparation

Before using the SGA301TAA Measurement Accelerator, you need to install and configure the software environment properly. The PathWave Measurement software is essential for SGA301TAA software. The PathWave software installer has been embedded into the SGA301TAA software.

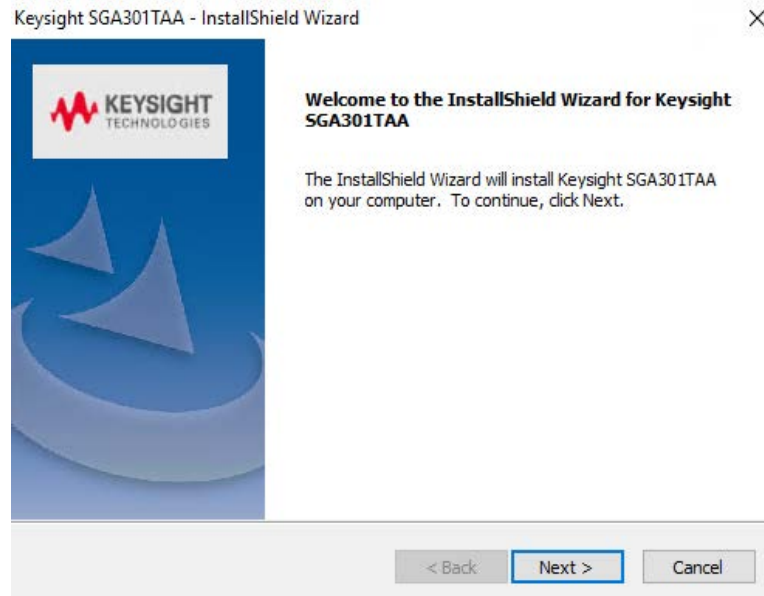
The following topics can be found in this section:

**[“Install the Accelerator Software” on page 12](#)**

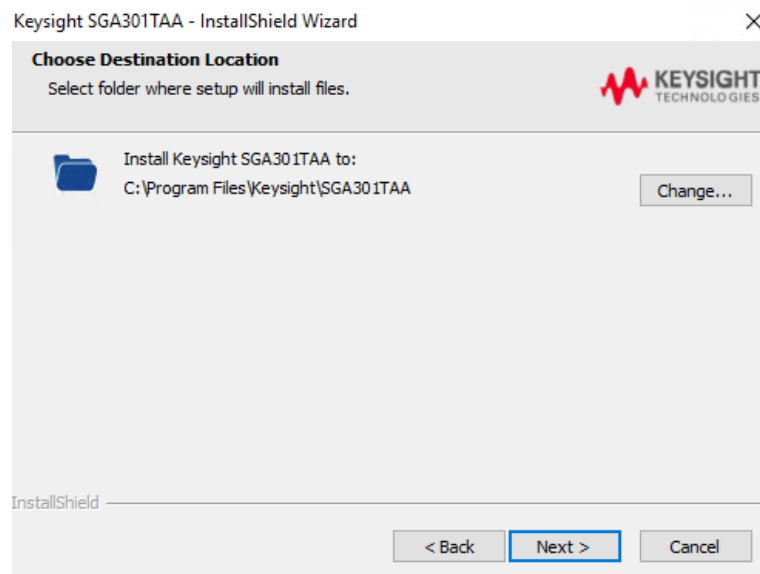
**[“Install the Keysight Software Manager” on page 15](#)**

## Install the Accelerator Software

Firstly, you need run "SGA301TAA\_Installer\_V.x.x.x\_Bxxxx\_x64.exe" to initialize the installer.

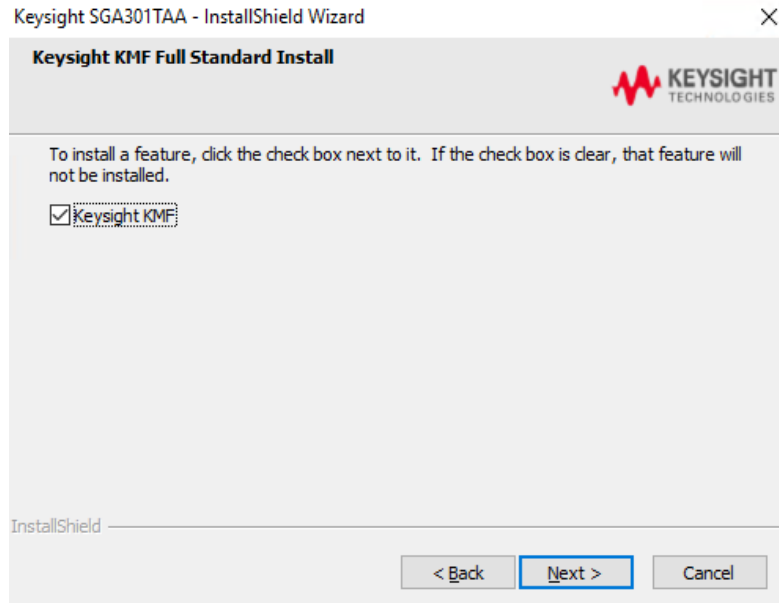


Click Next> to choose the destination location.

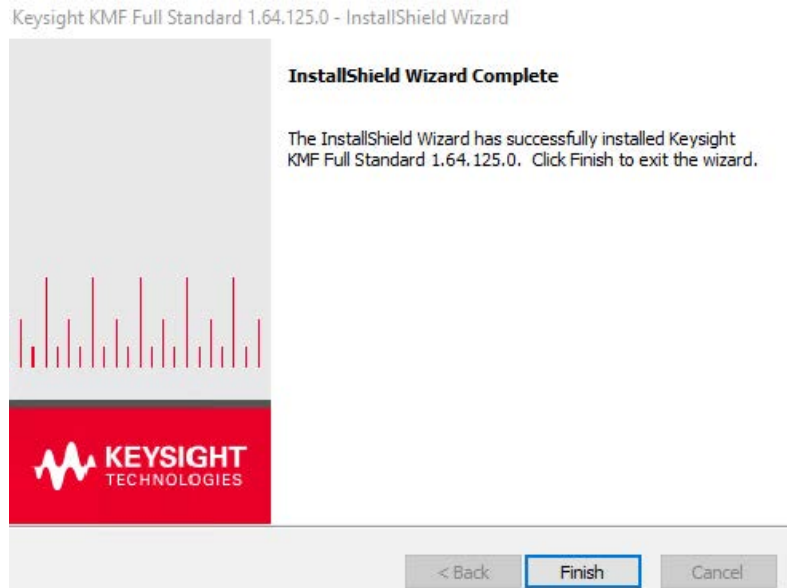


Software Preparation  
Install the Accelerator Software

The installer includes the Keysight Measurement Framework (KMF) installation as default. If you have installed the Pathwave Measurement software in advance, the KMF installation could be unchecked.

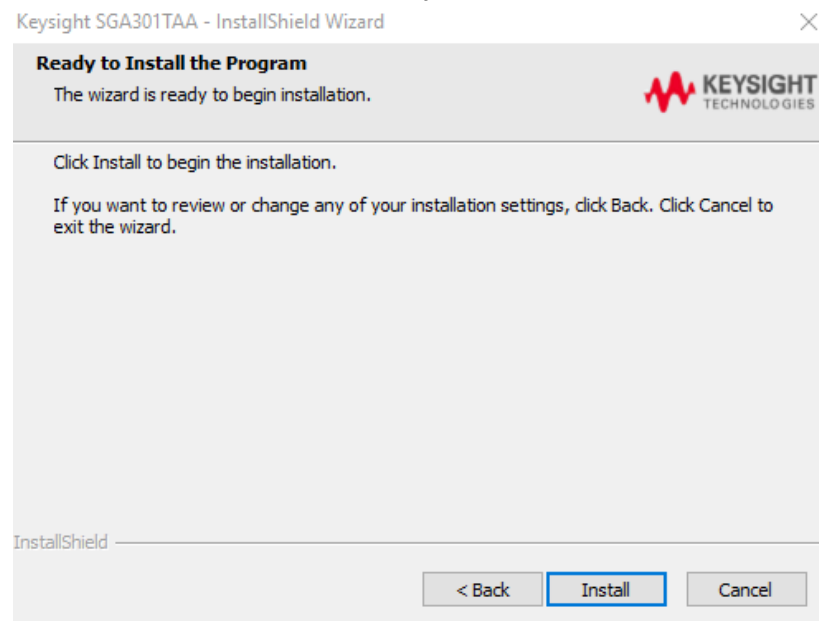


After the KMF software is installed successfully, click Finish and the .

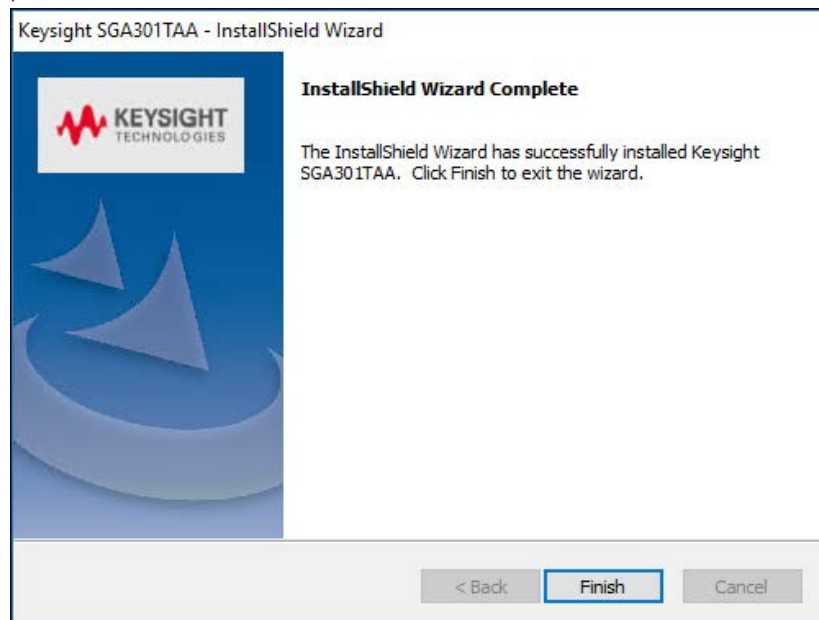


Software Preparation  
Install the Accelerator Software

After the KMF software is installed successfully, click **Finish** and the SGA301TAA software installation window will pop up. Click **Install** to install the SGA301TAA software immediately.



When the installation is completed, Click **Finish** to complete the installation process.

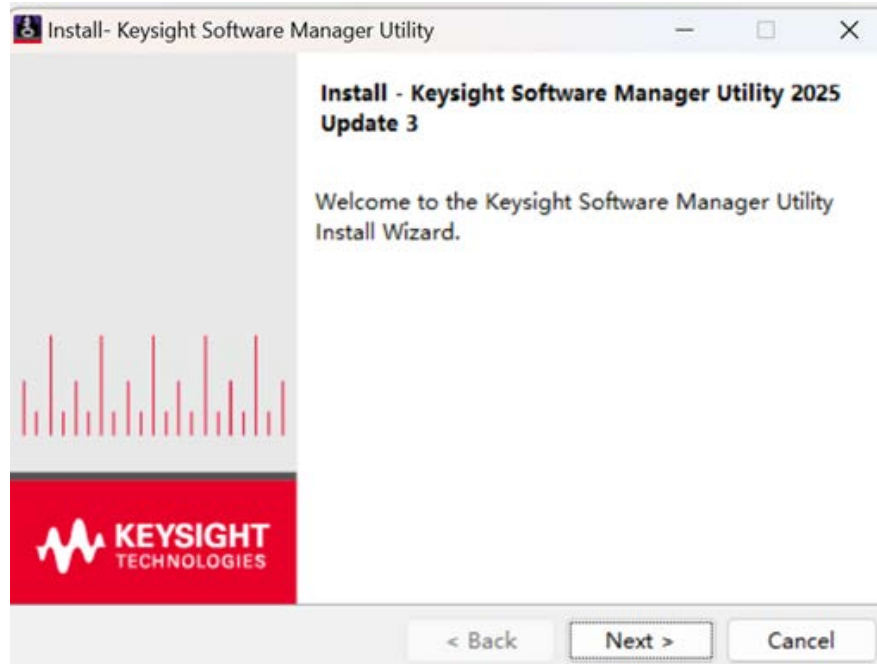


The SGA301TAA software has been installed successfully. Before using this software, you need install the Keysight Software Manager to activate the related licenses.

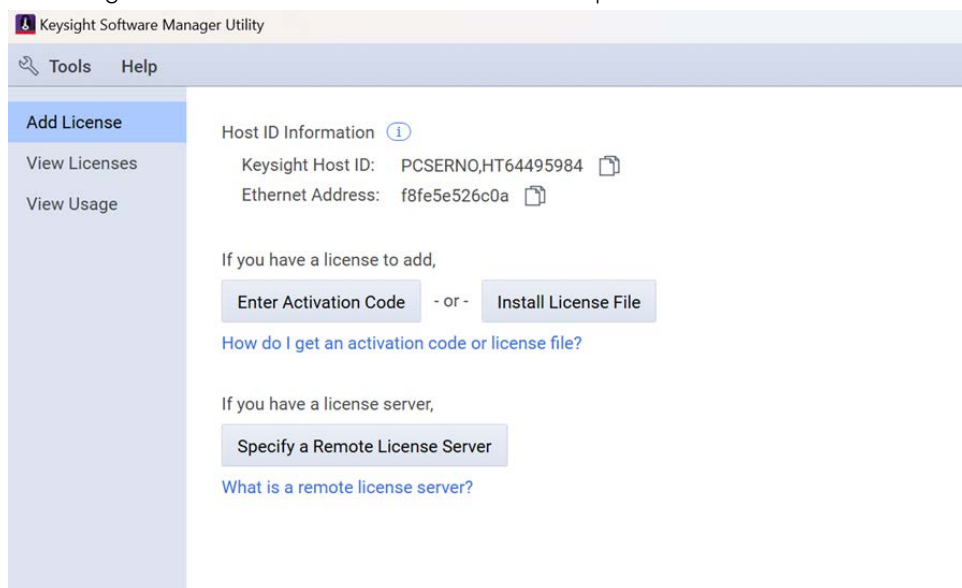
## Install the Keysight Software Manager

Before activating the PathWave licenses for your measurement, you need install the Keysight Software Manager (former PathWave License Manager) in your PC. Firstly, you need download the Keysight Software Manager installer in [www.keysight.com](http://www.keysight.com).

Click the software installer file to initiate the installShield Wizard as below.



Following the instructions in the Wizard to complete the installation.



You could enter the activation code or install the license file to activate the required Pathwave licenses. For the detailed information on Keysight Software Manager, please refer to the embedded help in the software.

Software Preparation  
Install the Keysight Software Manager

## 3 Licensing

Before using SGA301TAA software properly, you need setup the licenses in Keysight software manager.

**“Managing Licenses” on page 18**

**“Licensing New Application Software - After Initial Purchase” on page 21**

**“Transporting a License Between Systems” on page 23**

## Managing Licenses

SGA301TAA software supports perpetual and time-based licenses for different terms usage. And You could choos node-locked or transportable licenses for your different application scenarios.

The PathWave licenses for SGA301TAA software can be tied to a particular instrument, or transferable from one instrument to another by various means.

Licenses can be either time-based or perpetual (the latter have no expiration date).

To verify which licenses are installed, open the Keysight Software Manager from the Windows **Start** menu. Click **View Licenses** and the licenses installed on the instrument are listed, with information provided about license types and expiration dates (in the illustrated example, Fixed indicates a node-locked license).

### Transportable License

A transportable license is a type of node-locked license which is not tied permanently to a single instrument: it can be unlocked from one client host and then locked to another client host (however, it can only be assigned to one instrument at a time).

A transportable license is installed on an instrument by copying the contents of a license file into the Keysight Software Manager application, either manually (copy and pasting file contents) or by placing the license files on a USB memory device (KLM automatically takes in any license files detected on the memory device). KLM can also be used to delete a license, or transport it to a different instrument.

Unlike permanently node-locked licenses, which are pre-installed at the factory with new instrument purchases, transportable licenses require redemption and installation of the license before the first use. This allows the user to determine on which instrument to initially install the application license.

Transportable licenses require a connection to the Keysight Software Manager (KSM) web site:

<https://ksm.software.keysight.com/ASM/External/>

However, the connection to KSM is needed only for managing the check-in or check-out of the license. KSM also provides for storage of unused licenses which have been transported off instruments but are awaiting assignment to new instruments. The server will limit the number of transports per 30 day period per application license to 10.

Keysight recommends that instruments use the same instrument software release to ensure the latest code is available on each instrument, so that the user experience is identical between instruments. This is particularly important when transporting the license for a newly-released application which may only be available in the latest software release.

After initial installation of the license, when you want to transport a license, run Keysight Software Manager on the host that currently has the license, and transport the license. (Select **Help > Help Contents > View Licenses > Transport Licenses** and search for “transport” to find detailed instructions.)

## USB-Portable License

A USB portable license is another type of transferable license, in which the license is tied to a dongle which can be plugged into the instrument’s USB port.

A USB-portable license is a version of a transportable license, in which the license is locked to a USB dongle rather than to an instrument. An instrument that runs the licensed feature or product must have the license file resident on its disk drive, and have the dongle connected to one of its USB ports when it runs the licensed feature or product. Transporting the license, in this case, becomes a simple matter of plugging the USB device into a different instrument.

## Node-Locked License

A node-locked license is a license which permits the licensed software to run on one particular machine. Each node-locked license is locked to an instrument or computer; the license is resident on the hard disk of the system it is locked to, and that system runs the licensed feature or product.

Trial licenses, which are sometimes provided by Keysight so that customers can try out a product, are node-locked, time-based licenses. Trial licenses are issued for a particular instrument or computer, and have an expiration date.

## Floating License

A floating license (sometimes referred to as a network license) is another type of transferable license, in which the license is assigned temporarily by a designated license server. Setup your license server by installing Keysight License Manager 6.

Floating licenses reside on the license server and are checked out for use by Keysight products (instruments or applications), then returned (checked in), when no longer needed, so that they can be used on another computer or instrument.

Floating licenses can also be borrowed for a specified number of days. Once you have borrowed a license, you can disconnect the licensed instrument or computer from the license server and continue to use the license offline for the duration of the borrow period.

### Installing a floating license

Server setup:

1. Install Keysight License Server or Keysight License Manager on the server machine.
2. Obtain a license file.
3. Save the license file.
4. Use user manual process or Keysight License Manager to add the license file and start the server process.

Client setup:

1. Install the Keysight product/software to be licensed.
2. Install Keysight License Manager.
3. Use Keysight License Manager to specify license server (provides access to licenses).
4. Start the product.

#### NOTE

The Keysight implementation of FlexNet Publisher floating licensing requires the FlexNet Publisher license server manager (*lmgrd*) and Keysight vendor daemon (*agileesofd*) to run on any local computer used as a license server system.

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## Licensing New Application Software - After Initial Purchase

Additional measurement application software can be ordered after your initial purchase of the SGA301TAA software. Software upgrades are provided in a kit that includes an option based Entitlement Certificate. The licenses are downloaded from the license Web site onto a storage device so they can be loaded into the instrument.

If you do not want to wait for your upgrade kit to arrive, licenses can be installed using any available USB storage device. If you choose to do this, we recommend that the latest version of the instrument software be installed. This ensures that the measurement application being licensed and installed matches the most current version of the instrument software.

A license key is usually for one instrument model and serial number combination. The license key will only install itself on that instrument.

**NOTE** No calibration is required after a PathWave Measurement application installation.

The installation procedure is as follows:

Step	Action	Notes
1. Redeem the Option Upgrade Entitlement Certificate	Follow the instructions on the certificate.	Log into MyKeysight at <a href="http://www.keysight.com/my">http://www.keysight.com/my</a> and go to the Keysight Software Manager to redeem your entitlement certificate. After redeeming your Option Upgrade Entitlement Certificate you will receive an e-mail with a License Certificate (.lic file).
2. Save the license file	Save the .lic file to the root directory of a USB storage device.	
3. Load the license file	Connect the USB storage device to one of the instrument/controller USB ports.	Windows will detect the new hardware and may display the configuration menu. The instrument automatically loads the license file. (This may take a few minutes) Upon completion, the Keysight License Manager displays a Successful License Installation message.
<b>NOTE</b>	Alternatively the license file can be manually installed over USB or LAN by placing the license file in the following folder on your instrument. C:\Program Files\Agilent\licensing	
4. Verify installation	The instrument automatically loads the license file. (This may take a few minutes). Upon completion, the Keysight License Manager displays a "Successful License Installation" message.	On the <b>License</b> tab of the <b>System &gt; System Information</b> window, verify that the new license is listed.

Licensing  
Licensing New Application Software - After Initial Purchase

<b>Step</b>	<b>Action</b>	<b>Notes</b>
<b>5. Restart the Instrument Application</b>	Close the Transceiver Application and re-launch it, to activate the new license.	

## Transporting a License Between Systems

Transportable licenses are identified as such in the **Type** column of Keysight License Manager.

To transport a license from one system to another, Keysight recommends that both systems be at the same instrument software release. This ensures that the user experience is identical between instruments.

As a minimum, the instrument software release in the SGA301TAA that will receive the transportable license (the target instrument) must at least be able to support the desired application.

The SGA301TAA supports several ways of transporting licenses. The procedure below will focus on the most common procedure, where neither of the systems has access to an internet connection. For this procedure to work, a PC with an internet connection is required.

You will need the following:

- USB flash drive
- USB keyboard
- USB mouse

We will refer to the system from which the transportable license will be removed as the source instrument. We will refer to the system which will receive the transportable license as the target instrument.

The installation procedure is as follows:

Step	Action	Notes
1. Connect the USB devices to the source instrument	Connect the USB flash drive, USB keyboard, and USB mouse to the USB ports on the source instrument.	It will be necessary to use one or more of the rear panel ports to connect the USB devices.
2. Verify software version in each instrument	For each instrument, select <b>System &gt; System Information &gt; System</b> and make note of the Instrument S/W Revision on each.	Ideally, the revisions will be the same. But at least, both versions should be able to support the application whose license is being transported.
3. Obtain the Host ID from the Target Instrument	On the target instrument, select <b>System &gt; System Information &gt; System</b> and make note of the Host ID.	This information will be needed to issue the license for the target instrument. The Host ID is the model number, followed by a comma, followed by the serial number.

Step	Action	Notes																																																	
4. Start the License Manager on the Source Instrument	Using the Windows Start menu on the source instrument, open Keysight License Manager. It may take a minute for the Keysight License Manager screen to be fully populated with all the installed licenses:																																																		
	<table border="1"> <thead> <tr> <th>Feature</th> <th>Description</th> <th>Version</th> <th>Expiration</th> <th>Type</th> <th>Count</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>N90E1S91A</td> <td>5G Multi-Band Vector Transceiver</td> <td>1.000</td> <td>2023/02/19</td> <td>Fixed</td> <td>Unlimited</td> <td>Local</td> </tr> <tr> <td>S91XXF49_MU_MY62030146</td> <td>S91XXF49_MU_MY62030146</td> <td>1.000</td> <td>None</td> <td>Fixed</td> <td>Unlimited</td> <td>Local</td> </tr> <tr> <td>S91XXF49_MU_US62030146</td> <td>S91XXF49_MU_US62030146</td> <td>1.000</td> <td>2023/02/19</td> <td>Fixed</td> <td>Unlimited</td> <td>Local</td> </tr> <tr> <td>V9060EM0E</td> <td>IQ Analyzer Measurement Application</td> <td>1.000</td> <td>2023/02/19</td> <td>Fixed</td> <td>Unlimited</td> <td>Local</td> </tr> <tr> <td>V9065EM1E</td> <td>Sequence Analyzer for Device Application</td> <td>1.000</td> <td>2023/02/19</td> <td>Fixed</td> <td>Unlimited</td> <td>Local</td> </tr> <tr> <td>Y9085EM0E</td> <td>5G NR Measurement Application</td> <td>2023.0927</td> <td>2023/02/19</td> <td>Fixed</td> <td>Unlimited</td> <td>Local</td> </tr> </tbody> </table>	Feature	Description	Version	Expiration	Type	Count	Location	N90E1S91A	5G Multi-Band Vector Transceiver	1.000	2023/02/19	Fixed	Unlimited	Local	S91XXF49_MU_MY62030146	S91XXF49_MU_MY62030146	1.000	None	Fixed	Unlimited	Local	S91XXF49_MU_US62030146	S91XXF49_MU_US62030146	1.000	2023/02/19	Fixed	Unlimited	Local	V9060EM0E	IQ Analyzer Measurement Application	1.000	2023/02/19	Fixed	Unlimited	Local	V9065EM1E	Sequence Analyzer for Device Application	1.000	2023/02/19	Fixed	Unlimited	Local	Y9085EM0E	5G NR Measurement Application	2023.0927	2023/02/19	Fixed	Unlimited	Local	
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5. Transport the Transportable License from Source Instrument	<ol style="list-style-type: none"> <li>1. On the source instrument, locate the desired license to be transported in the KLM window and select it to highlight it. Its option designator should include the letters TP or TY.</li> <li>2. Right-click on the mouse and select Delete.</li> <li>3. Select Yes in the License Deletion Confirmation dialog box.</li> <li>4. After a few seconds, a Transport License dialog box will appear. Select <b>OK</b> and save the *.url file on the USB flash drive, with a name such as 5G_license.url</li> </ol>	<p>Be sure you are selecting a transportable license and not a node-locked (perpetual) license.</p> <p>Although you are deleting the transportable license, the ultimate action will be to transport it.</p> <p>The information in this dialog box will be used to issue a new license for the target instrument.</p>																																																	
6. Get New License from KSM Transportation Web page	<ol style="list-style-type: none"> <li>1. Insert USB flash drive into PC that is connected to the internet.</li> <li>2. On the PC, locate the *.url file on the USB flash drive that was saved in the previous step and select it.</li> <li>3. After a few seconds, the KSM Transportation Web page will appear. One field, the New Host ID, will be empty.</li> <li>4. Enter the Host ID of the target instrument (step 3 above) into the field marked New Host ID.</li> <li>5. Select <b>Submit</b>.</li> </ol>	<p>The PC must have an internet connection and an available USB port.</p> <p>Most of the fields have been populated from the information in the *.url file.</p> <p>Be very careful when entering the New Host ID. A mistake made in entering the New Host ID will result in an invalid license being issued. Be sure there is a comma between the model number and serial number. There should be no spaces in the Host ID.</p>																																																	

Step	Action	Notes
<p><b>7. Save License File to USB Flash Drive</b></p>	<p><b>1.</b>The KSM Transportation Web page will indicate that a license file is available and display two links to the license file. Right-click on the license file and select Save Target As...</p> <p><b>2.</b>Save the license file to the root level of the USB flash drive, keeping the .lic file extension.</p> <p><b>3.</b>Close the Save dialog and exit the KSM Transportation Web page.</p>	<p>Either link can be used to either display or save the license file.</p> <p>The license file must be saved to the root level of the USB flash drive for it to be recognized by the target instrument.</p>
<p><b>8. Install License File in Target Instrument</b></p>	<p><b>1.</b> With the target instrument running, insert the USB flash drive into one of the front panel USB ports. After a few minutes, you should see a message saying Successful License Installation.</p> <p><b>2.</b>Cycle power on the target instrument.</p> <p><b>3.</b>Once the system has re-booted, the application should be ready to use on the target instrument.</p>	<p>The Keysight License Services running on the target instrument looks for *.lic files whenever it detects a USB device has been inserted. If the contents of the *.lic file are appropriate for the instrument, the license will be installed automatically.</p> <p>Newly-installed licenses are only recognized by the instrument software on power-up.</p>

Licensing  
Transporting a License Between Systems