

Lattice Radiant Software 2026.1.1 Installation Guide for Windows



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Type Conventions Used in This Document

Convention	Meaning or Use
Bold	Items in the user interface that you select or click. Text that you type into the user interface.
<i><Italic></i>	Variables in commands, code syntax, and path names.
Ctrl+L	Press the two keys at the same time.
<code>Courier</code>	Code examples. Messages, reports, and prompts from the software.
<code>...</code>	Omitted material in a line of code.
<code>.</code> <code>.</code> <code>.</code>	Omitted lines in code and report examples.
<code>[]</code>	Optional items in syntax descriptions. In bus specifications, the brackets are required.
<code>()</code>	Grouped items in syntax descriptions.
<code>{ }</code>	Repeatable items in syntax descriptions.
<code> </code>	A choice between items in syntax descriptions.

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Introduction

This document provides installation instructions for Lattice Radiant® Software for Windows.

Radiant software supports the following device families:

- ▶ iCE40 UltraPlus™ (iCE40UP)
- ▶ Avant™ (LAV-AT)
- ▶ CertusPro™-NX (LFCPNX)
- ▶ Certus™-NX (LFD2NX)
- ▶ MachXO4™ (LFMXO4)
- ▶ MachXO5™-NX (LFMXO5)
- ▶ CrossLink™-NX (LIFCL)
- ▶ Certus™-N2 (LN2-CT)
- ▶ Mach™-N2 (LN2-MH)
- ▶ Certus™-NX-RT (UT24C)
- ▶ CertusPro™-NX-RT (UT24CP)

Note

The available devices vary depending on the type of license.

Radiant software is a 64-bit application. Installation and operation on a 64-bit Windows environment are required.

System Requirements

The following are the basic system requirements for Radiant software on Windows:

- ▶ Intel x86 64-bit or 64-bit-compatible PC
- ▶ 64-bit OS
- ▶ Windows 11
- ▶ Approximately 50 GB free disk space plus 6 GB of temporary space
- ▶ Computer Memory Requirement: 32 GB recommended for running a single project. If running multiple projects, the memory requirement will be higher.
- ▶ Network adapter and network connectivity

Note

A node-locked license is based on the physical (hard-coded) address provided by the network adapter. Network connectivity is not necessarily required for a node-locked license. In the absence of a network connection, you can install the NWLink IPX/SPX protocol to force the recognition of your NIC card ID (see ["Licensing Radiant Software" on page 17](#)).

A floating license requires access to the license server, so both a network adapter and connectivity are required.

- ▶ 1024 X 768 graphics display
- ▶ Microsoft-compatible mouse and mouse driver
- ▶ A Web browser with Javascript capability
- ▶ Adobe Acrobat Reader

Whitelisting the Encrypted DLL Files

The encrypted libbasct.dll and libhwsecurity.dll files used by Radiant may trigger security alerts on your system. These files are secure and required for normal Radiant operation. If your antivirus (AV) software identifies either file as a potential security threat, you may need to add them to your AV software's whitelist (allowlist).

Contacting Technical Support

FAQs

The [Knowledge Base](#) provides solutions to questions that many of our customers have already asked. Lattice Applications Engineers are continuously adding to the database.

To access the Knowledge Base, go to www.latticesemi.com > [Support](#) > [Knowledge Base](#).

For Technical Support Assistance

Submit a technical support case via technical support case portal or go to www.latticesemi.com > [Support](#) > [Technical Support Request](#).

For Local Support

Contact your nearest [Lattice Sales Office](#).

Installing Radiant Software for Windows

The following sections describe product options and installation instructions for Radiant software for Windows.

Software Product Options

Table 1 shows the product options for the installation of Radiant software for Windows.

Table 1: Radiant Design Tools Installation Options

Product Option	Description
Radiant software for Windows	Installs the Radiant software design tools for all Lattice Semiconductor FPGA designs. Table 2 lists the tools included in this option.
FPGAs	Installs the FPGA design environment.
QuestaSim Lattice Edition	Installs Siemens® QuestaSim™ Lattice Edition simulation tool. A license for QuestaSim is included.
Programmer Drivers	Installs drivers for the Radiant Programmer tool, which loads FPGAs with the designs.

Table 2 shows the tools included in the Radiant software for Windows option.

Table 2: Tools Included in the Radiant Software for Windows Option

Tool	Description
Project Management Tools	Include the Reports view, and the Security Setting tool to enable you to create and maintain the project, keep track of the stages in the design implementation process, review reports, and compare different implementations of the project.
Design Entry Tools	Include Source Editor and Device Constraint Editor, which offer VHDL, Verilog, schematic, and mixed-mode design entry support and design structure check.
Design Simulation Tools	Include Simulation Wizard and QuestaSim Lattice Edition for performing functional simulation for the projects and creating the test stimulus files.
Design Constraints Application Tools	Include Physical Designer, and Netlist Analyzer to enable you to set constraints for implementing the design.
Design Implementation Tools	Include Synplify Pro for Lattice, Lattice Synthesis Engine (LSE), Clear Tool Memory, Map, Place & Route, and Bit Generation to ease the design implementation process.
Analyzing Static Timing, Power Consumption, and Signal Integrity Tools	Include Timing Analysis View and Power Calculator to enable you to estimate the design performance, experiment with different configurations, and to calculate power consumption.
Programming the FPGA Tool	Includes Programmer, Deployment Tool, Download Debugger, and Programming File Utility tools to let you program the FPGAs.
Testing and Debugging On-chip Tools	Include Reveal Inserter and Reveal Analyzer to let you complete the final stage of developing a design: testing in the actual FPGA, either on a test board or in your system.
HTML Help and User Documentation	Include complete instructions for designing with Radiant software design tools and third-party tools. Also provides user manuals, tutorials, example design projects, and access to technical documentation from the Lattice Semiconductor Web site.
Tcl/Tk Scripting Tool	Enables you to automate Radiant software design processing.

Installation Procedure

Radiant software is available for download from the Lattice Radiant Downloads & Licensing web page located at <http://www.latticesemi.com/Latticeradiant>. Click the **Software Downloads & Documentation** tab. Some documents and downloads are not visible to anonymous visitors. To view all items, please log in to your Lattice account. Follow the product download instructions and uncompress the software.

To install the Lattice Semiconductor Radiant software for Windows:

1. Close all applications before starting Radiant software installation.
2. After downloading the installer ZIP file, extract the contents to a local folder.

Right-click the ZIP file and select **Extract All**.

- ▶ If security restrictions prevent downloading the installer due to 7z content, contact your network or security administrator and provide the download URL, file name, and an error screenshot to request download approval.

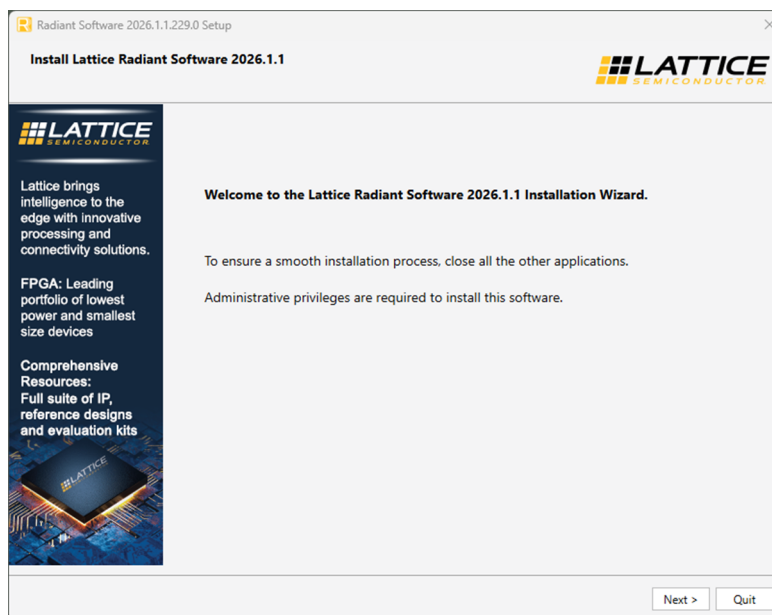
3. When prompted, accept the default extraction location and click **Extract**.
4. Navigate to the extracted folder and double-click **2026.1.1.229.0_Radiant.exe** to launch the installer.

Figure 1: Radiant .exe File Directory Structure Example



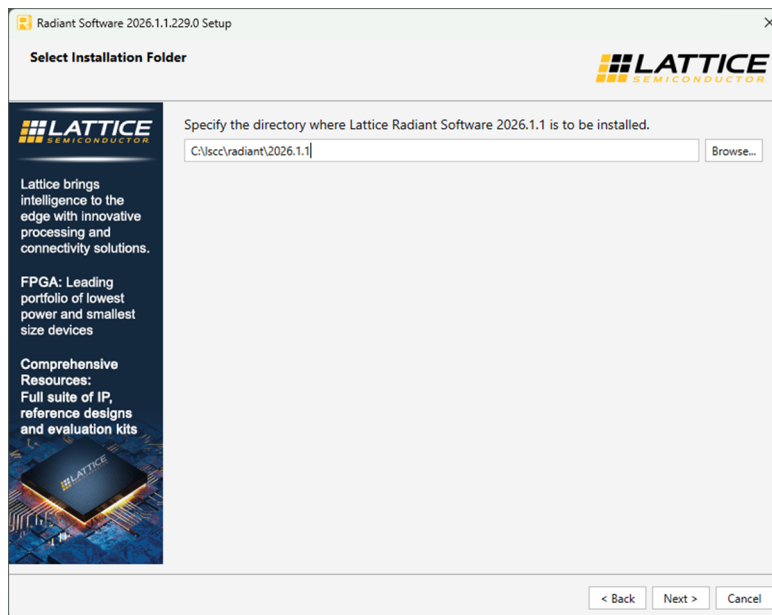
5. The **Install Lattice Radiant Software 2026.1.1** page opens.

Figure 2: Install Lattice Radiant Software 2026.1.1



6. Click **Next** to select installation folder.
7. The default destination folder is C:\lsc\radiant\2026.1.1. Click **Browse** to change the drive or destination folder.

Figure 3: Select Installation Folder

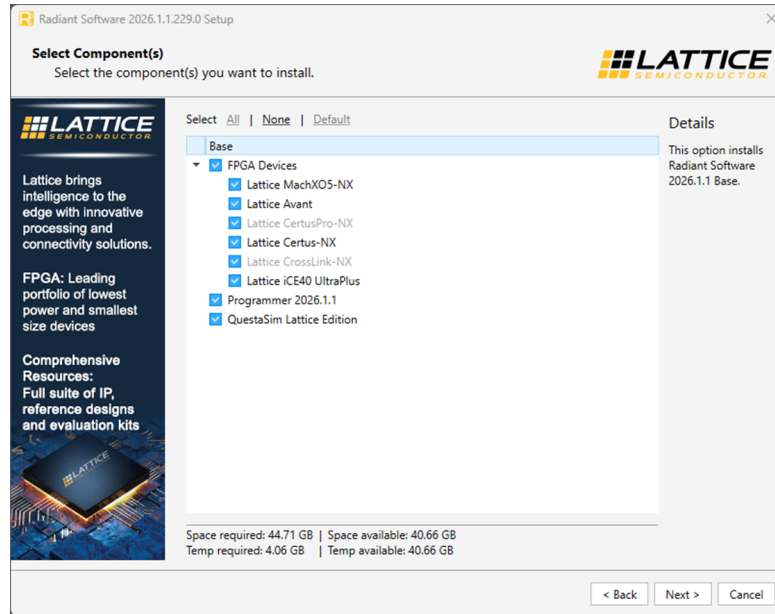


8. Click **Next** to open the Select Component(s) page.
9. Select the Radiant software components that you want to install by selecting or clearing each of the listed options. If you have purchased

third-party synthesis and simulation tools directly from the third-party vendors, you can clear the **QuestaSim Lattice Edition** product options.

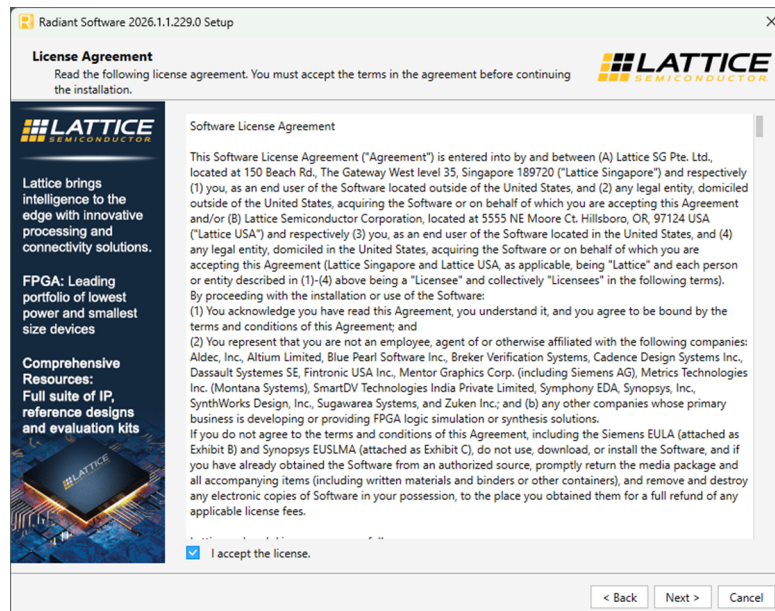
The FPGAs product option has additional options for selecting the Lattice FPGA devices that you want to install. To set the additional options, select **FPGAs** and click the device.

Figure 4: Select Component(s)



10. Click **Next** to open the License Agreement page.

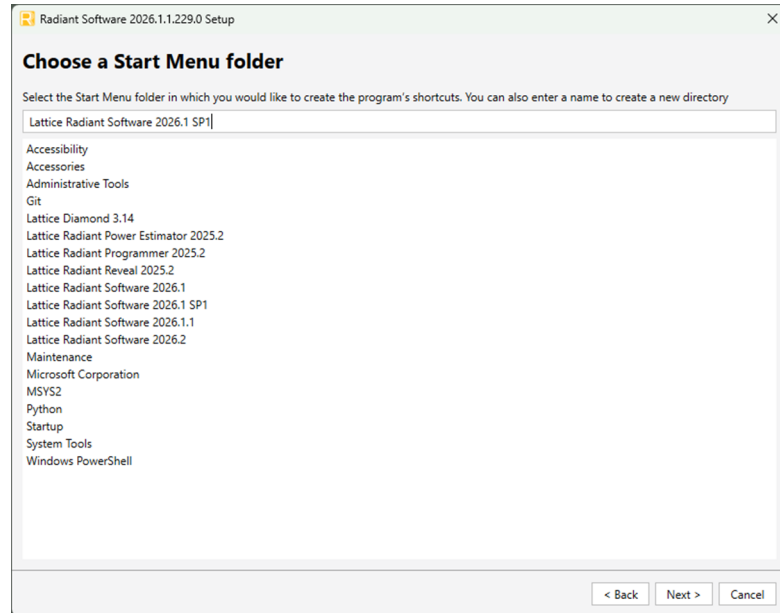
Figure 5: License Agreement



11. Read the license agreement. If you agree, select **I accept the license** and click **Next** to open the Start Menu shortcuts page.

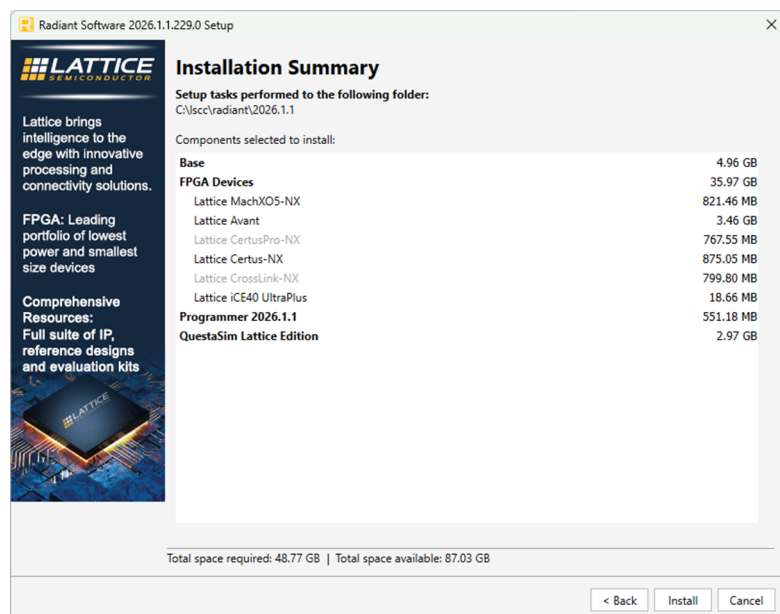
12. Click **Next** to open the Choose a Start Menu folder page. The default name of the program group is **Lattice Radiant Software 2026.1 SP1**. You can modify this if needed.

Figure 6: Choose a Start Menu folder



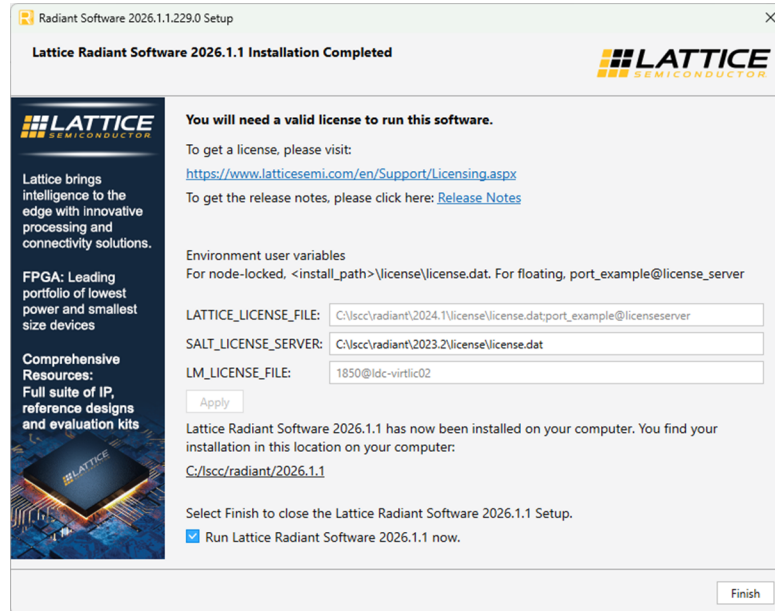
13. Click **Next** to display the Installation Summary page. Review the current settings: the destination folder and components selected. If everything is correct, click **Install** to start the installation.

Figure 7: Installation Summary



14. Once the installation is completed, the Lattice Radiant Software 2026.1.1 Installation Completed page shows the following environment user variables.

Figure 8: Lattice Radiant Software 2026.1.1 Installation Completed



- ▶ **LATTICE_LICENSE_FILE** – A variable for Lattice license file setting. This field can be edited.
- ▶ **SALT_LICENSE_SERVER** – A variable required for launching QuestaSim's **latticeqsim** feature. This field can be edited.
- ▶ **LM_LICENSE_FILE** – This setting cannot be edited in this page. If you need to update it, change the environment variable using the Control Panel.
- ▶ **MGLS_LICENSE_FILE** – A variable required for launching ModelSim's **latticemsim** feature. MGLS_LICENSE_FILE setting may not be available in the installation page but it important to set this up correctly using **System variables** in Windows.

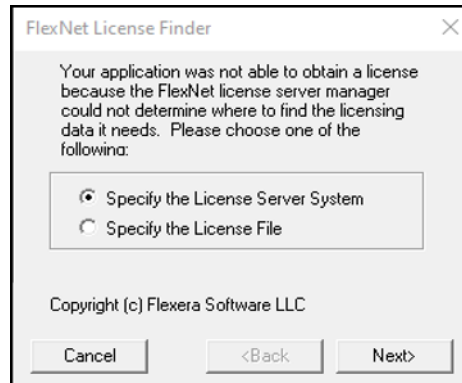
15. Read the confirmation note and click **Finish**.

Notes

- ▶ Do not close the installation window. The window automatically closes once the installation is completed.
- ▶ If you encounter a problem when opening a Radiant project on a virtual machine (VM), you will need to set the environment variable "QT_OPENGL=angle".

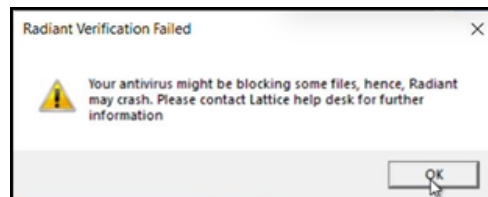
16. If you have never installed any Lattice Software before, you need to set a valid license file path. Without this variable, the FlexNet License Finder dialog box will pop up to ask you for the license. Select the desired license option and click **Next** to complete the license installation.

Figure 9: Flex License Finder



17. At this stage, Radiant installer checks if the installation is good. If it finds any problems, it will display the appropriate warning.

Figure 10: Radiant Verification Failed Dialog Box



Licensing Radiant Software

The Radiant software development tool is licensed software. To launch the tool, you must configure a FlexLM license. The license can be either node-locked to the local machine or acquired from a license server accessible from a LAN or WiFi connection. The default location of the license file is `<install_path>/license/license.lic` or `license.dat`. If this location is changed, you must set the `LATTICE_LICENSE_FILE` environment variable to include the new path name.

The following environment user variables can be configured.

- ▶ **LATTICE_LICENSE_FILE** – A variable for the license file setting.
- ▶ **SALT_LICENSE_SERVER** – A variable required for launching QuestaSim's `latticesim` feature.
- ▶ **MGLS_LICENSE_FILE** – A variable required for launching ModelSim's `laticesim` feature.

Notes:

-
- ▶ Radiant software permits the creation of configuration bitstreams for all of Lattice Semiconductor's FPGAs. However, a license is required for some devices.
 - ▶ To use the included QuestaSim Lattice OEM simulator, you need a license with the `latticesim` license feature. The licenses generated for use with the ModelSim Lattice OEM simulator have the `laticesim` license feature and must be updated to the new feature to use QuestaSim Lattice OEM. To start QuestaSim, set the environment variables `LATTICE_LICENSE_FILE`, `SALT_LICENSE_SERVER` and `MGLS_LICENSE_FILE`.
-

License your software early to avoid any down time.

Obtaining, Activating, and Installing Radiant Software License

The following procedures cover obtaining, activating, and installing a license for Radiant software.

To obtain the license file for Radiant software:

1. Log in to your Lattice account at latticesemi.com.
2. Go to **Support > Software Licensing > Licensing Support Center**.

Click **Visit the Portal**.

3. In the License & Delivery Portal, go to **Activation & Entitlements > Register for Evaluation or Free Licenses**.

Note

If you purchased a subscription license, it will appear in the Entitlements page.

4. Select the license to register and click **Register**.

To set up and activate the Radiant license:

1. In the License & Delivery Portal, go to **Activation & Entitlements > View Entitlements**. Subscription licenses appear here without a separate registration step.
2. Select the license to activate and click **Action > Activate**.
3. Enter your ship-to email address and click **Next**.
4. Add or select a host and set the host type to **ETHERNET**.
5. Click **Generate**.

The activated license is displayed in License Summary.

To install the Radiant license file:

1. Select **View > Save to File or Email license**.
2. Place the .lic file in the directory specified during installation.

Visit the [Lattice FPGA Tools Licensing Portal Guide](#) for more information.

Obtaining, Activating, and Installing Third-Party Software Licenses

The following procedures cover obtaining, activating, and installing licenses for Siemens QuestaSim Lattice FPGA Edition, Siemens ModelSim Lattice FPGA Edition, and Synopsys SynplifyPro Lattice FPGA Edition.

To obtain the license file for QuestaSim, ModelSim, or SynplifyPro:

1. Log in to your Lattice account at latticesemi.com.
2. Go to **Support > Software Licensing > Licensing Support Center**.
Click **Visit the Portal**.
3. In the License & Delivery Portal, go to **Activation & Entitlements > Register for Evaluation or Free Licenses**.

Note

If you purchased a subscription license, it will appear in the Entitlements page.

4. Select one of the following licenses (node-locked or floating) and click **Register**:
 - ▶ **Siemens QuestaSim Lattice FPGA Edition**
 - ▶ **Siemens ModelSim Lattice FPGA Edition**
 - ▶ **Synopsys SynplifyPro Lattice FPGA Edition**

To set up and activate the licenses:

1. In the License & Delivery Portal, go to **Activation & Entitlements > View Entitlements**. Subscription licenses appear here without a separate registration step.
2. Select the license to activate and click **Actions > Activate**.
3. Enter your ship-to email address and click **Next**.
4. Add or select a host and set the host type to **ETHERNET**.
5. Click **Generate**.

The activated license is displayed in License Summary.

To install the Radiant license file:

1. Select **View > Save to File or Email license**.
2. Place the .lic file in the directory specified during installation.

Visit the [Lattice FPGA Tools Licensing Portal Guide](#) for more information.

Consolidating Lattice and Third-Party Tool Licenses

To consolidate licenses:

1. In the License & Delivery Portal, go to **Licenses > View Licenses**.
2. Select the licenses to consolidate. Only licenses sharing the same host ID can be consolidated.
3. Click **Action > Consolidate**.
4. In the Consolidated Licenses page, select the recently consolidated license.
5. Click **Action > Save to file** or **Email license**.

The license you receive is based on the identification of your network interface card (NIC). The NIC ID or equivalent is the 12-character hexadecimal physical address. Determine the host ID of your license server or dedicated machine by using the `lmutil lmhostid` command to return the exact host ID that FlexNet recognizes for licensing.

Setting Up a Node-locked License

The following procedure covers configuring a node-locked license on your local machine.

To configure a node-locked license:

1. Save the .lic file to your software install folder (for example, `<sw_install>\license\license.lic` or `license.dat`).
2. Point your environment variable to that file: `LATTICE_LICENSE_FILE = <sw_install>\license\license.lic` or `license.dat`.
3. Open the Radiant tool. The tool opens once the license check succeeds.

Determining Host ID

The host ID is the 12-character hexadecimal physical address of your network interface card (NIC) and is required when generating a node-locked or floating license. It can be determined using one of the methods in this section.

Method 1 (Recommended): `lmutil`

To determine the host ID using `lmutil`:

1. Open Command Prompt and navigate to the FlexNet utilities folder:

```
cd C:\lsc\radiant\2026.1\isfpfga\bin\nt64
```

2. Run the following command:

```
lmutil lmhostid -ether
```

Example output:

```
C:\> lmutil lmhostid -ether
lmutil - Copyright (c) 1989-2025 Flexera. All Rights Reserved.
The FlexNet host ID of this machine is "A1B2C3D4E5F6"
```

Note

In case FlexNet has identified multiple valid MAC addresses, use *one of the returned IDs* when generating a node-locked or floating license.

Method 2: Windows `ipconfig`

To determine the host ID using Windows `ipconfig`:

1. Open Command Prompt and run:

```
C:\> ipconfig /all
```

2. Locate a network adapter showing Media State: Media connected.
3. Note the **Physical Address** value.

Example output:

```
Ethernet adapter Ethernet:

Description . . . . . : Intel(R) Ethernet
Connection I219-LM
Physical Address. . . . . : 3C-52-82-AB-CD-EF
Media State . . . . . : Media connected
```

Note

If the host ID returned by `lmutil lmhostid -ether` differs from the Physical Address shown by `ipconfig /all`, use the `lmutil` value. This is the host ID recognized by FlexNet Publisher.

Example host ID to be entered in the portal:

Method	Value
Physical Address from <code>ipconfig /all</code>	3C-52-82-AB-CD-EF
Host ID entered in licensing portal	3C5282ABCDEF
Host Type	ETHERNET

License File Format Compatibility

Lattice Radiant supports license files generated from both legacy licensing systems and the current Lattice Licensing Portal powered by FlexNet Operations (FNO). Depending on when a license was generated, its format may differ from examples shown in older installation guides.

Legacy License	Current License	Description
.dat	.lic	Use filename as provided when saving. Either extension is supported.
SERVER nodename	SERVER this_host	this_host is a FlexNet placeholder meaning 'the current machine'. Replace with the actual server hostname if hosting remotely.
DAEMON lattice daemon_path	VENDOR lattice	Current licenses use a VENDOR statement. The daemon path is optional per FlexNet, but may still be specified, particularly on Linux systems.
FEATURE	INCREMENT	New licenses from licensing portal use INCREMENT statements.
No USE_SERVER line	USE_SERVER line present	Directs client requests to the license server.
TS_OK	TS_OK (no change)	Enables remote desktop connection using a node-locked license.

Both legacy and current license file syntax are supported. For advanced FlexNet Publisher administration, including vendor daemon configuration, redundant servers, options files, and troubleshooting, refer to the official [FlexNet Publisher License Administration Guide](#).

Floating License File Components

This section summarizes the key components of a Radiant floating license file and the differences between legacy and current formats.

SERVER Line

A SERVER line identifies the license server host, host ID, and optional TCP/IP port.

Legacy license syntax example:

```
SERVER nodename 001122334455 7788
```

Current license syntax example:

```
SERVER this_host 001122334455 7788
```

The hostname field may be modified if required by local IT policies. Administrators may optionally replace `this_host` with `hostname` or `localhost` if preferred for their environment.

DAEMON (Legacy) and VENDOR (Current) Lines

The vendor daemon is responsible for serving and managing Lattice licenses.

Legacy DAEMON Syntax:

Older floating licenses typically use a DAEMON statement:

```
DAEMON lattice daemon_path
```

Example after editing:

```
DAEMON lattice C:\lsc\radiant\2025.1\ispfpga\bin\nt64\lattice.exe
```

In legacy licenses, administrators must replace `daemon_path` with the actual location of the Lattice vendor daemon before starting the license server.

Current VENDOR Syntax:

Current licenses generated by the Lattice Licensing Portal use a VENDOR statement:

```
VENDOR lattice
```

The FlexNet Publisher `VENDOR` statement identifies the vendor daemon responsible for serving licenses. The daemon path is optional and may be omitted when the license manager can automatically locate the vendor daemon.

Current Lattice floating licenses typically omit the daemon path, simplifying license server configuration:

```
SERVER this_host 001122334455 7788
VENDOR lattice
USE_SERVER
```

Migration Guidance

When reviewing an existing floating license file, identify the daemon statement and take the appropriate action:

If You See	Action Required
<code>DAEMON lattice daemon_path</code>	Replace <code>daemon_path</code> with the full path to the Lattice vendor daemon.
<code>VENDOR lattice</code>	No daemon path modification is required.

For advanced vendor daemon configuration, custom daemon locations, options files, daemon ports, and redundant server configurations, refer to the official [FlexNet Publisher License Administration Guide](#).

USE_SERVER Line

The `USE_SERVER` directive instructs client applications to check out licenses directly from the license server, rather than reading the license file locally. It is present in current floating licenses and is not required in legacy licenses.

```
USE_SERVER
```

FEATURE and INCREMENT Lines

`FEATURE` and `INCREMENT` statements describe license functionality and appear in both node-locked and floating licenses.

► FEATURE (Legacy)

Legacy licenses use the `FEATURE` statement:

```
FEATURE LSC_RADIANT lattice ...
```

The FlexNet vendor daemon processes only the first `FEATURE` line for a given feature name. Additional `FEATURE` lines for the same feature do not increase available license counts.

► INCREMENT (Current)

Current licenses generated by the Lattice Licensing Portal use the `INCREMENT` statement:

```
INCREMENT LSC_RADIANT lattice ...
```

`INCREMENT` lines are additive and may be combined into a larger license pool, allowing multiple entitlements for the same feature to contribute additional concurrent seats.

Setting Up a Floating License

A floating license server allows multiple client machines to share a pool of Radiant licenses. The server runs two processes: `lmgrd` (the license manager daemon) and `lattice` (the Lattice vendor daemon). To enable a floating license, you must have a license server set up on a Windows or Linux server to monitor your Radiant software license. Each client PC must have the `LATTICE_LICENSE_FILE` variable set to point to the license file on the server.

Radiant software uses the following network communication ports (TCP/IP socket ports):

Port	Usage
80	Standard HTTP port used for software updates, IP and reference design downloads, and message IDs
7788	Default FlexLM port in legacy license file syntax; configurable by editing the SERVER line

Before starting the server setup, verify that TCP/IP is installed and client machines can communicate with the server by name. Open Command Prompt and run:

```
ping <hostname>
```

License Management Files

The following table lists the license management files for 64-bit systems.

- ▶ `lmgrd.exe`, `lmutil.exe`, `lmtools.exe`, and `lattice.exe` are located at: `<install_path>\ispfpga\bin\nt64`
- ▶ `saltd.exe` is located at:
`<install_path>\questasim\license_server`

Filename	Version	Description
<code>lmgrd.exe</code>	11.19.4.1	FlexNet Publisher license server manager. Starts and manages the Lattice vendor daemon and serves floating licenses to clients.
<code>lmutil.exe</code>	11.19.4.1	FlexNet Publisher utility used for license administration, diagnostics, status reporting, and troubleshooting. Includes <code>lmstat</code> , <code>lmhostid</code> , and <code>lmdiag</code> .

Filename	Version	Description
lmtools.exe (Windows only)	11.19.4.1	Windows-only graphical utility for configuring, starting, stopping, monitoring, and troubleshooting FlexNet license servers.
lattice.exe	11.19.4.1	Lattice vendor daemon that manages license checkout and enforcement for Lattice software features.
saltd.exe	11.19.0.1	Siemens QuestaSim Lattice Edition vendor daemon used for the <code>latticeqsim</code> feature. Version may vary by QuestaSim release. Refer to the QuestaSim Lattice Edition release notes included with the software installation.

Editing the Radiant License File

The license file you received may be in either legacy or current format. Identify your format below and follow the appropriate editing instructions.

Legacy Format

```
SERVER nodename 001122334455 7788
DAEMON lattice daemon_path
```

```
FEATURE LSC_RADIANT lattice ...
```

Note

The `FEATURE` line requires no editing. It is shown here for reference only. Your license file will contain the complete feature string as generated by the Lattice Licensing Portal.

Required edits:

- ▶ Replace `nodename` with the license server hostname.
- ▶ Replace `daemon_path` with the full path to the Lattice vendor daemon.

After editing:

```
SERVER L-PF1KDFY9 001122334455 7788
DAEMON lattice <install_path>\ispfpga\bin\nt64\lattice.exe
```

Current Format

```
SERVER this_host 001122334455
VENDOR lattice
USE_SERVER
```

```
INCREMENT LSC_RADIANT lattice ...
```

Required edits:

- ▶ Optionally add a TCP/IP port number to the `SERVER` line.

After editing:

```
SERVER this_host 001122334455 7788
VENDOR lattice
USE_SERVER
```

```
INCREMENT LSC_RADIANT lattice ...
```

Note

No changes to the `VENDOR` line are normally required, and no vendor daemon path entry is needed. Administrators may optionally replace `this_host` with the actual server hostname or `localhost`.

Editing the QuestaSim Lattice Edition License File

Edit the `DAEMON` line in your QuestaSim/ModelSim license file, replacing the placeholders with the actual server hostname and vendor daemon path.

The path to the QuestaSim Lattice Edition vendor daemon is:

```
<install_path>/questasim/license_server/saltd
```

Before editing:

```
SERVER put_server_name_here 00D49E21869E 1717
DAEMON mgcld path_to_mgcld
INCREMENT latticeqsim mgcld 2026.10 29-sep-2026 1
DF2C3F6A6DB0756869D1 \
    VENDOR_STRING=A0A024BF ISSUER="ModelSIM/Questa Lattice"
SN=1115097116 \
    SIGN2="00B6 621F 9744 F50C A32B 92F4 8A83 EA41 65D3 19AC
FA8F 0E59 \
    5FA6 AAE6 5F0E 1E54 137A 04DF 44BC 542E E1FC 6370 7002 8FD4
3FDF 1298 \
    75EB 73AA CDC1 8A58"
```

Required edits:

- ▶ Replace `put_server_name_here` with the license server hostname.
- ▶ Replace `DAEMON mgcld path_to_mgcld` with `DAEMON saltd` followed by the full path to `saltd.exe`.

After editing:

```
SERVER L-PF1KDFY9 00D49E21869E 1717
DAEMON saltd <install_path>/questasim/license_server/saltd.exe
INCREMENT latticeqsim mgcld 2026.10 29-sep-2026 1
DF2C3F6A6DB0756869D1 \
    VENDOR_STRING=A0A024BF ISSUER="ModelSIM/Questa Lattice"
SN=1115097116 \
    SIGN2="00B6 621F 9744 F50C A32B 92F4 8A83 EA41 65D3 19AC
FA8F 0E59 \
    5FA6 AAE6 5F0E 1E54 137A 04DF 44BC 542E E1FC 6370 7002 8FD4
3FDF 1298 \
    75EB 73AA CDC1 8A58"
```

Starting the License Server using LMTools

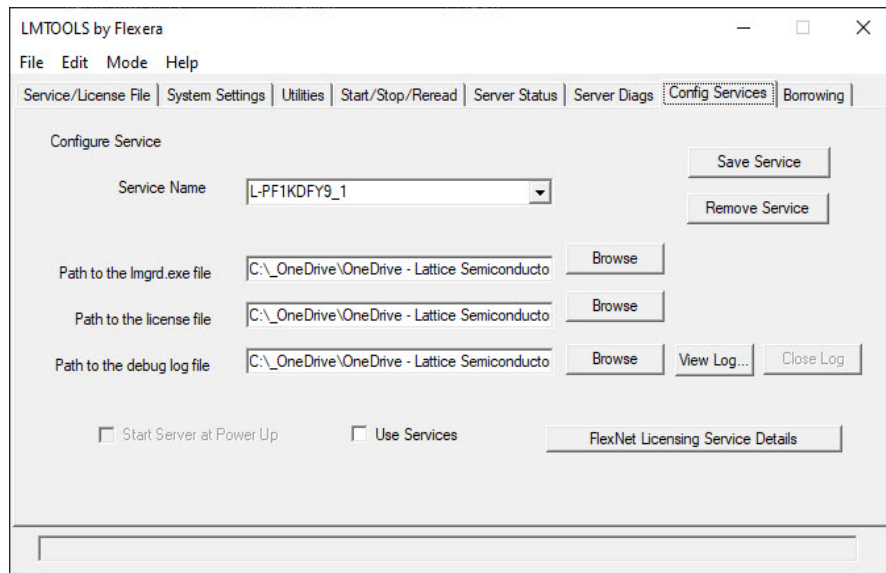
Run LMTools is located at: <install_path>\ispfpga\bin\nt64\lmttools.exe

1. In the **Config Services** tab:

- ▶ Create a Service Name
- ▶ Browse to the path of the lmgrd.exe file
(<install_path>\ispfpga\bin\nt64\lmgrd.exe)
- ▶ Browse to the path of the license file.
- ▶ Browse to the location of where you want to create the log file.
- ▶ Select **Use Services** to run the license manager as a Windows Service.

Optionally, you can select **Start Server at Power Up** to run the license server automatically as soon as Windows boots.

- ▶ Save the Service by clicking the **Save Service** button.

Figure 1: LMTools_Config Services

2. In the Server/License File tab, select **Configuration using Services**
3. In the Start/Stop/Reread tab, click **Start the Server** button.
4. In the Server Status tab, click **Perform Status Enquiry** button to ensure that the server will be started properly.
5. If you see that your daemon is up and see the number of licenses available, your server has started successfully.

Configure your SALT_LICENSE_SERVER environment variable:

- ▶ In Control Panel > Advanced system settings > Environment Variables, modify or create your lattice_license_file and SALT_LICENSE_SERVER to include the port@servername.
- ▶ In the example SALT_LICENSE_SERVER value is: 1717@L-PF1KDFY9).

Configuring Client Machines

After you receive your floating license and ensure that the license manager is running, install the Radiant software locally on each client that will use the floating license.

Set your system variable `LATTICE_LICENSE_FILE` and `SALT_LICENSE_SERVER` to point to `TCP/IP_PORT@hostname` (for example, `1717@LPF1KDFY9`)

Troubleshooting Licensing Problems

If you encounter problems with your license, refer to Table 1 for common FLEXlm error messages and possible causes or solutions.

Table 1: FLEXlm Error Messages

FLEXlm Error Message	Possible Causes or Solutions
Invalid parameter [-42, 252]	▶ The <code>LATTICE_LICENSE_FILE</code> variable has not been set properly. ▶ The license file is invalid. ▶ An invalid feature is specified in the license file.
Invalid parameter [-42, 252:10061] Winsock error code	▶ You have a floating license, and the license daemon has not been started at the Windows NT server. ▶ The network connection between the server and the client has not been established.
Invalid parameter [-12, 122] Invalid returned data from license server	The node name of the Windows NT server does not match the one in your floating license file.
Invalid parameter [-5, 222] No such feature exists	The feature could not be found in the license file.
! License Check Failed	You either have a node-locked license or you do not have a license file. Contact Lattice Semiconductor Technical Support for a valid floating license file.

If you encounter any software-related problems, review the following common troubleshooting scenarios before calling Lattice Semiconductor Technical Support:

- ▶ Ensure that your environment variable settings are set correctly, including the **TEMP** user variable.
- ▶ For Windows, your system should contain the following environment settings:

```
SET LATTICE_LICENSE_FILE=<install_path>\license\license.dat
```

You can verify these settings by accessing the **System Properties** dialog box from your Windows system. Select the **Advanced** tab and the **Environment Variables** section.

If Radiant software still does not run after you have installed your new license file and confirmed that your environment variables are correct, gather the following items:

- ▶ A screen capture showing the error message
- ▶ A text file that contains a listing of the environment setup for your PC. From an Command Prompt window, issue the **set > env.txt** command.
- ▶ Your license.dat file

Combine these items in a zip file and send as attachment in a [support ticket](#). Include an explanation of the problem.

Running Multiple Versions of Lattice Software

Radiant software enables you to run FPGA designs on platforms on which Radiant and previous Diamond/iCEcube are installed. You can run current and previous versions.

Running Radiant Software

After the software and license configuration have been installed, you can invoke Radiant software.

Running Radiant Software Locally

If you have installed Radiant software on your local machine:

- ▶ In Windows 11, click the **Start** button (Windows icon) in the taskbar.
- ▶ Type **Radiant** in the search bar.
- ▶ Click **Radiant Software** from the results.

The Radiant software main window is invoked.

Running Radiant Software using Windows Remote Desktop

You can also install Radiant software on a shared disk, installation procedure of which is exactly the same as that for the local installation. After the license file setup, you can access the shared disk from the Windows Explorer and then invoke Radiant software from that installation directory by double-clicking `<boot_drive>:\<Radiant_install_directory>\bin\nt64\radiant.exe`

When the installation is finished, make sure to set the `LATTICE_LICENSE_FILE` environment variable to be the location of your license file. When you use a client-server setup, it is recommended that you use a floating license. Then set `LATTICE_LICENSE_FILE=7788@nodename`. Confirm that it works by selecting and compiling one of the examples on the client.

Finding the Installation History

The Radiant software records a log of the installation history, which you can find from the Radiant software main window.

To view the installation history:

1. Open the Radiant software main window.

Select **Help > About Lattice Radiant Software**. See the Installation History tab.

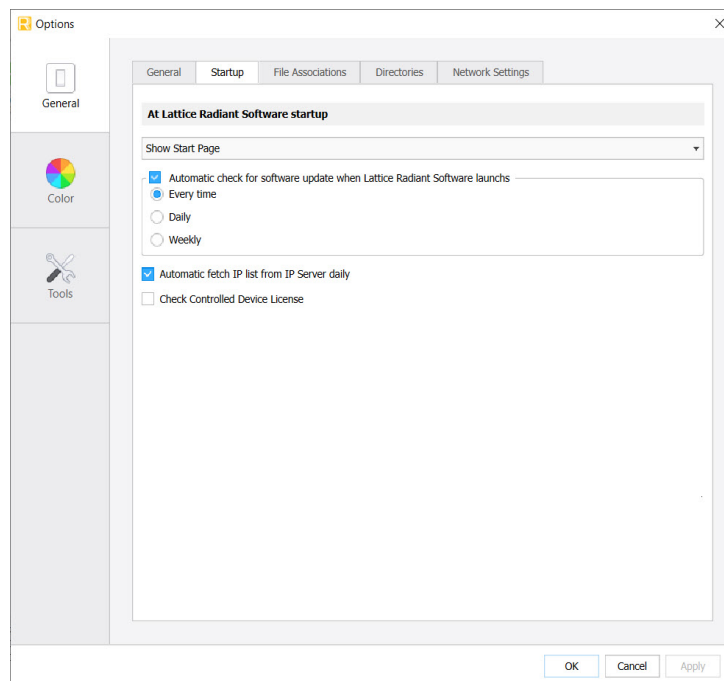
Updating Lattice Radiant Software

After you have registered and licensed your installation, check the Lattice Semiconductor Web site for new software updates, device support, and enhancements. Make sure that you have the latest software by checking for updates regularly.

To activate UPDATE:

1. To enable automatically check for software update when Radiant software is launched, if you don't see Update window pops up. In Start page do as follows:
 - ▶ Select the **Startup** tab of the Options dialog box in Tools, click “Automatically check for software update when Lattice Radiant Software launches” and choose how often it will check.

Figure 1: Startup Tab of the Options Dialog Box



When Radiant software is launched, it will connect to the Internet automatically to check for updates.

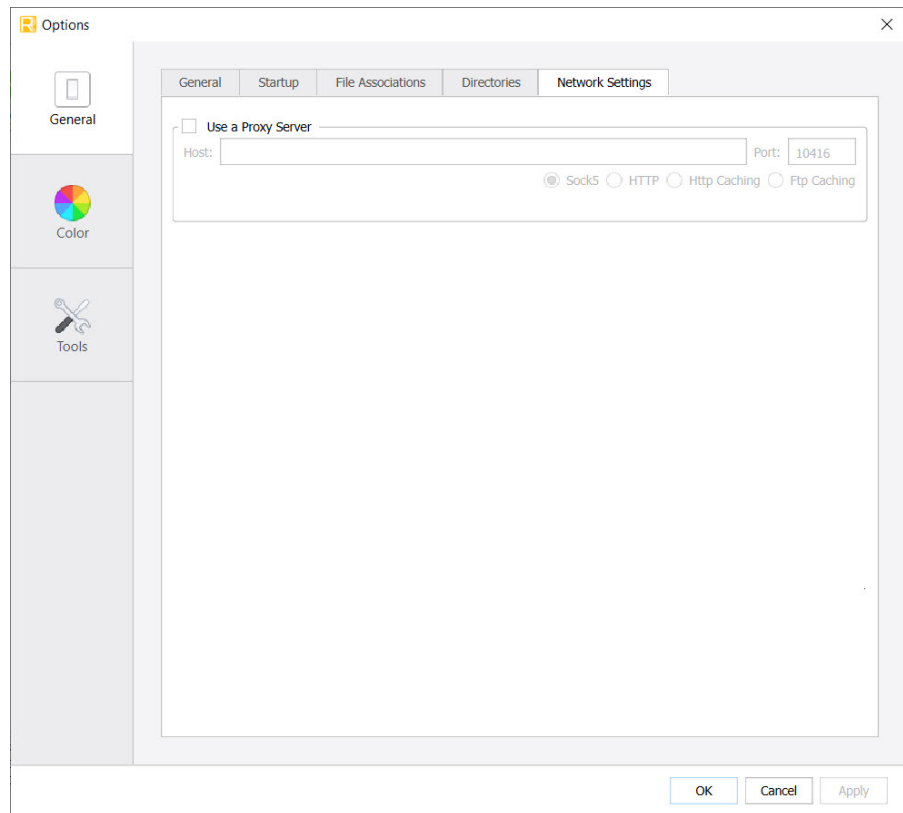
Changing the Network Setting

To enable automatic checking, you must indicate how your computer accesses the Internet.

To change the Internet connection settings:

1. Select the **Network Setting** tab of the Options dialog box in Tools.

Figure 2: Network Settings Tab of the Options Dialog Box



2. Select the **Use a Proxy Server** option if you must go through a proxy server before connecting to the Internet. The proxy server prevents outsiders from breaking into your organization's private network. Ask your system administrator for the URL address and port assignment. This option is turned on by default.

If you use direct Internet access, do not select the **Use a Proxy Server** option on this tab.

Installing Updates

When you use the Auto Check feature, UPDATE notifies you whenever an update version of Radiant software becomes available. You receive notification when you open the Radiant software main window.

To check and install the recommended update:

- ▶ Launch Radiant software and the UPDATE software goes online to check for an update. If one is available, the Radiant software update version will be displayed in the **Available update versions** field.
- ▶ Click **Download** to save the update to a directory and install it later.
- ▶ Click **Install** to download and install the selected update version (as the version number specified in the **Available update versions** field) right away.

To install a downloaded update:

1. Close all Radiant tools.
2. Go to the location where you saved the update version.

Double-click the update file and follow the on-screen instructions.

Running Radiant Software from the Command Line

There are two ways to run the Radiant software from the command line: through Radiant Tcl Console or by running executable files directly.

Running Stand-Alone Radiant Tcl Console

Radiant software development environment includes Radiant Tcl Console, which allows you to run scripts for automating common tasks. Radiant Tcl Console is also available outside of the user interface in order to run custom scripts. To launch the stand-alone Radiant Tcl Console, enter the following on a command line:

```
% <install_path>/bin/nt64/radiantc
```

These commands configure the environment allowing all of the underlying design tools to be run. Refer to the online Help for more information about the command line.

Installing Stand-alone Tools

Installing Stand-Alone Radiant Programmer

Programmer is included in the Radiant software installation and consists of six tools:

- ▶ Radiant Programmer
- ▶ Deployment Tool
- ▶ Download Debugger
- ▶ Programming File Utility
- ▶ Install & Uninstall Cable Drivers

If you want to use Programmer, Deployment Tool, Download Debugger, or Programming File Utility without installing Radiant software, you can install the stand-alone Programmer.

The stand-alone Programmer is available in 64-bit versions.

Follow the product download instructions and uncompress the software. For more information on how to download stand-alone Programmer, go to the [Lattice Radiant Software](#) page and click the **Software Downloads & Documentation** tab. Some documents and downloads are not visible to anonymous visitors. To view all items, please log in to your Lattice account.

To install the stand-alone Programmer:

1. Close all applications before starting installation.
2. After downloading the installer ZIP file, extract the contents to a local folder. Right-click the ZIP file and select **Extract All**.
3. When prompted, accept the default extraction location and click **Extract**.
4. Navigate to the extracted folder and double-click the executable file to launch the installer.

5. The Install Lattice Radiant Programmer 2026.1.1 page opens.
6. Click **Next** to open the Select Installation Folder page.
The default destination folder is C:\lsc\programmer\radiant\2026.1.1.
Click **Browse** to change the drive or destination folder.
7. Click **Next** to open the Select Component(s) page.
8. Click **Next** to open the License Agreement page.
9. Read the license agreement. If you agree, click **I accept the license**.
10. Click **Next** to open the Start Menu Shortcut page.
The default shortcut name is Lattice Radiant Programmer 2026.1. Type a new name in the text box if you wish to change it.
11. Click **Next** to open the Ready to Install page.
12. Click **Install** to start installing the selected components
13. In the Lattice Radiant Programmer 2026.1.1 Installation Completed page, read the note and click **Finish**.

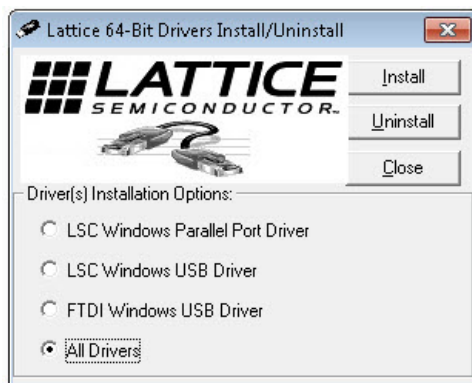
Install and Uninstall Cable Drivers

To start the Install & Uninstall Cable Drivers:

1. In Windows 11, click the **Start** button (Windows icon in the taskbar).
2. Click **All** in the upper-right of the Start menu.
3. Scroll down to find **Lattice Radiant Programmer** in the alphabetical list.
4. Click the folder/group to expand it.
5. Select **Install & Uninstall Cable Drivers**.

Parallel port or USB drivers are required to program Lattice devices using the Lattice download cables. To install the drivers, you must have administrative privileges.

Two drivers installation options are available in the Drivers Install/Uninstall dialog box.

Figure 1: Driver Installation Options

- ▶ **Parallel port driver** – Supports device programming through the parallel port of your PC. The driver can be installed on Windows 11.
- ▶ **USB port driver** – Supports device programming through the USB port of your PC. The driver can be installed on Windows 11. This is for the HW-USBN-2A USB cable.
- ▶ **FTDI USB driver** – This supports Lattice HW-USBN-2B USB cable and Lattice evaluation boards with FTDI (Future Technology Devices International) USB host chip. The driver does not support Windows 2000 and earlier operating systems.

Note

The first time the FTDI driver is installed, the Windows operating system may report that Windows cannot verify the publisher of this driver software. Select “Install this driver software anyway.” This warning will not occur on subsequent installations.

1. In the Drivers Install/Uninstall dialog box (Figure 1), select the desired driver and click **Install**.
2. When prompted, verify the USB cable is plugged in and click **Yes**.
3. In the Installation Wizard Complete dialog box, and click **OK**.

Note

Do not close the installation window. The window automatically closes once the installation is completed.

Starting Stand-Alone Radiant Programmer

To start the stand-alone Radiant Programmer:

1. In Windows 11, click the **Start** button (Windows icon in the taskbar).
2. Click **All** in the upper-right of the Start menu.

3. Scroll down to find **Lattice Radiant Programmer <version>** in the alphabetical list.
4. Click the folder/group to expand it.
- ▶ Select **Radiant Programmer**.

Starting Stand-Alone Deployment Tool

To start the stand-alone Deployment Tool:

1. In Windows 11, click the **Start** button (Windows icon in the taskbar).
2. Click **All** in the upper-right of the Start menu.
3. Scroll down to find **Lattice Radiant Programmer <version>** in the alphabetical list.
4. Click the folder/group to expand it.
5. Select **Deployment Tool**.

Starting Stand-Alone Download Debugger

To start the stand-alone Download Debugger:

1. In Windows 11, click the **Start** button (Windows icon in the taskbar).
2. Click **All** in the upper-right of the Start menu.
3. Scroll down to find **Lattice Radiant Programmer <version>** in the alphabetical list.
4. Click the folder/group to expand it.
5. Select **Download Debugger**.

Starting Stand-Alone Programming File Utility

To start the stand-alone Programming File Utility:

1. In Windows 11, click the **Start** button (Windows icon in the taskbar).
2. Click **All** in the upper-right of the Start menu.
3. Scroll down to find **Lattice Radiant Programmer <version>** in the alphabetical list.
4. Click the folder/group to expand it.
5. Select **Programming File Utility**.

Installing Stand-Alone Radiant Reveal Logic Analyzer

Radiant Reveal Logic Analyzer is included in the Radiant software installation. If you want to use the tool without installing Radiant software, first download it from the Lattice Semiconductor Web site.

Radiant Reveal Logic Analyzer is available in 64-bit versions.

For more information on how to download stand-alone Radiant Reveal Logic Analyzer, go to the [Lattice Radiant Software](#) page and click the **Software Downloads & Documentation** tab. Some documents and downloads are not visible to anonymous visitors. To view all items, please log in to your Lattice account.

To install the stand-alone Radiant Reveal Logic Analyzer:

1. Close all applications before starting installation.
2. After downloading the installer ZIP file, extract the contents to a local folder. Right-click the ZIP file and select **Extract All**.
3. When prompted, accept the default extraction location and click **Extract**.
4. Navigate to the extracted folder and double-click the executable file to launch the installer.
5. The Install Lattice Radiant Reveal 2026.1.1 installation page opens.
6. Click **Next** to open the Select Installation Folder page.
The default destination folder is C:\lsc\reveal\radiant\2026.1.1. Click **Browse** to change the drive or destination folder.
7. Click **Next** to open the Select Component(s) page.
8. Click **Next** to open the License Agreement page.
9. Read the license agreement. If you agree, click **I accept the license**.
10. Click **Next** to open the Start Menu shortcuts page.
The default shortcut name is Lattice Radiant Reveal 2026.1.1. Type a new name in the text box if you want to change it.
11. Click **Next** to open the Ready to Install page.
12. Click **Install** to start installing the selected components.
13. In the Lattice Radiant Reveal 2026.1.1 Installation Completed page, read the note and click **Finish**.

Starting Stand-Alone Reveal Logic Analyzer

To start the stand-alone Reveal Logic Analyzer:

1. In Windows 11, click the **Start** button (Windows icon in the taskbar).
2. Click **All** in the upper-right of the Start menu.
3. Scroll down to find **Lattice Radiant Reveal <version>** in the alphabetical list.
4. Click the folder/group to expand it.
5. Select **Radiant Reveal Logic Analyzer**.

Installing Stand-Alone Power Estimator

Power Calculator is included in the Radiant software installation. If you want to use the tool without installing Radiant software, you can install the stand-alone Power Estimator, available for download from the Lattice Semiconductor Web site.

Power Estimator is available in 64-bit versions.

For more information on how to download stand-alone Power Estimator, go to the [Lattice Radiant Software](#) page and click the **Software Downloads & Documentation** tab. Some documents and downloads are not visible to anonymous visitors. To view all items, please log in to your Lattice account.

To install the stand-alone Power Estimator:

1. Close all applications before starting installation.
2. After downloading the installer ZIP file, extract the contents to a local folder. Right-click the ZIP file and select **Extract All**.
3. When prompted, accept the default extraction location and click **Extract**.
4. Navigate to the extracted folder and double-click the executable file to launch the installer.
5. The Install Lattice Radiant Power Estimator 2026.1.1 page opens.
6. Click **Next** to open the Select Installation Folder page.
The default destination folder is C:\lsc\powerestimator\radiant\2026.1. Click **Browse** to change the drive or destination folder.
7. Click **Next** to open the Select Component(s) page.
8. Click **Next** to open the License Agreement page.
9. Read the license agreement. If you agree, click **I accept the license**.
10. Click **Next** to open the Start Menu Shortcut page.

The default shortcut name is Lattice Radiant Power Estimator 2026.1. Type a new name in the text box if you want to change it.

11. Click **Next** to open the Ready to Install page.
12. Click **Install** to start installing the selected components.
13. In the Lattice Radiant Power Estimator 2026.1.1 Installation Completed page, read the note and click **Finish**.

Starting Stand-Alone Power Estimator

1. In Windows 11, click the **Start** button (Windows icon in the taskbar).
2. Click **All** in the upper-right of the Start menu.
3. Scroll down to find **Lattice Radiant Power Estimator <version>** in the alphabetical list.
4. Click the folder/group to expand it.
5. Select **Radiant Power Estimator**.

Note

The stand-alone Power Estimator requires a license. [See “Licensing Radiant Software” on page 17.](#)

Downloading a Soft IP from IP Catalog

From the IP on Server tab of IP Catalog, you can download and save an IP package to a folder in your local machine or network. This is especially helpful when you need to share an .IPK file in facilities without internet access.

To download and save a Soft IP:

1. In the **IP on Server** tab of **IP Catalog**, right-click the IP and select **Download & Save as**.

The **Save IP As** dialog box opens.

2. Select or create a location for the IP.
3. If preferred, give the IP a new name in the "File name" box.
4. Click **Save**.

Troubleshooting

If you encounter any software-related problems during or after the installation of Radiant, review the following common troubleshooting scenarios before calling Lattice Semiconductor Technical Support:

- ▶ Ensure that your environment variable settings are set correctly, including the TEMP user variable.
- ▶ You should also have the following system environment setting pointing to the license file:

```
SET LATTICE_LICENSE_FILE=<Lattice_license_path>\license.dat
```

If you have multiple installations of Lattice software, this variable may have multiple paths in it. If there are problems, you may need to manually edit the variable.

You can verify these settings by accessing the System Properties dialog box from your Windows system. Select the Advanced tab from that dialog box and go to the “Environment Variables” section.

- ▶ If you have problems with the display, ensure that your system video display is set to a screen resolution of 1024 x 768 or more and that your video display is set to use 256 or more screen colors.
- ▶ Opening the online Help may be interrupted by one of the following messages on the Internet Explorer Information Bar:
 - ▶ “To help protect your security, Internet Explorer has restricted this file from showing active content that could access your computer. Click here for options...”
 - ▶ “To help protect your security, Internet Explorer has restricted this file from running scripts or ActiveX controls that could access your computer. Click here for options...”
 - ▶ “To help protect your security, Internet Explorer has restricted this webpage from running scripts or ActiveX controls that could access your computer. Click here for options...”

This can happen if you have Internet Explorer as your default browser.

To see the Help, click on the Information Bar and choose **Allow Blocked Content**. A dialog box with an expanded warning opens. Click **Yes**.

To avoid these warnings, either use a different browser or turn off the warning for active content in Internet Explorer.

Note

Doing either of these means that when you open any Web page that is resident on your computer—not just Radiant software Help—the page will automatically run any active content that it has. While active content is common and can be very useful, malicious content can damage your files. Be sure you trust the software on your computer.

To turn off the warning:

1. In the Internet Explorer, choose **Tools > Internet Options**.
2. Click the **Advanced** tab.
3. Under Security, select **Allow active content to run in files on My Computer**.
4. Click **OK**.

▶ **Whitelisting the libbasct.dll File**

The encrypted libbasct.dll in Radiant may trigger a security alert in your system. libbasct.dll is a secure file. If your antivirus (AV) software addresses it as a security threat, you may need to whitelist this file on your AV software.

When All Else Fails

If the Radiant software still does not run after you have installed your new license file and confirmed that your environment variables are correct, gather the following items:

- ▶ A screen capture showing the error message.
- ▶ A text file that contains a listing of the environment setup for your PC. From a Command Prompt window, issue the **set > env.txt** command.
- ▶ Your license.dat file.

Put these items into a zip file and e-mail it to techsupport@latticesemi.com, including an explanation of the problem.

Revision History

The following table gives the revision history for this document.

Date	Version	Description
10/08/2026	2.9	Update for Radiant software 2026.1.1.
06/26/2026	2.8	Update for Radiant software 2026.1.
04/06/2026	2.7	Update for Radiant software 2025.2.1.
12/11/2025	2.6	Update for Radiant software 2025.2.
06/26/2025	2.5	Update for Radiant software 2025.1.
12/20/2024	2.4	Update for Radiant software 2024.2.
06/28/2024	2.3	Add QuestaSim and update for Radiant software 2024.1.
11/27/2023	2.2	Update for Radiant software 2023.2.
05/05/2023	2.1	Remove Windows 7/ 8 and update for Radiant software 2023.1.
11/10/2022	2.0	Update for Radiant software 2022.1.
08/09/2022	1.9	Update for Radiant software 3.2.
12/06/2021	1.8	Update for Radiant software 3.1.
05/05/2021	1.7	Updates for Ubuntu system library.
12/07/2020	1.6	Updates for ModelSim floating license.
11/03/2020	1.5	Add ModelSim and update for Radiant software 2.2.
6/03/2020	1.4	Update for Radiant software 2.1.
12/2/2019	1.3	Update for Radiant software 2.0.
09/24/2019	1.2	Add CrossLink-NX.

Date	Version	Description
04/12/2019	1.1	▶ Update for Radiant software 1.1
		▶ Add Stand-Alone Radiant Power Estimator.
		▶ Update hypertext.
02/13/2018	1.0	Initial Release.