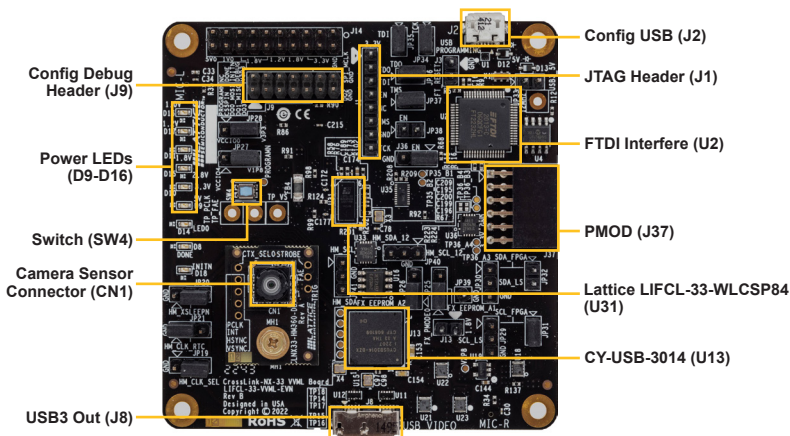


This document provides a brief introduction to the CrossLink-NX-33 Voice and Vision Machine Learning (VVML) Board.



- ### 1 Check Kit Contents

The CrossLink-NX-33 VVML Board kit contains the following items:

  - CrossLink-NX-33 VVML Board
  - HiMax HM0360 camera sensor daughter board (LIFCL-HM360-DB) mounted on CN1 of VVML board.
  - USB Cable for programming via PC (USB-A to USB 2 Micro-B)
  - USB Cable for video output (USB-A to USB 3 Micro-B)
  - Quick Start Guide with Lattice Radiant software download information

- ### 2 Using the CrossLink-NX-33 VVML Development Board

The CrossLink-NX-33 Voice and Vision Machine Learning Board as shipped supports Controller-SPI based configuration. The external SPI Flash Configuration Memory is pre-loaded with a demonstration program.

- ### 3 Installing the Software

The CrossLink-NX-33 VVML Board is pre-programmed with a demonstration bitstream file.

Download the Lattice Radiant Software (version 2022.1 or later) in [www.latticesemi.com/Radiant](http://www.latticesemi.com/Radiant) to develop a new design.

Radiant Programmer Standalone Software (version 2022.1 or later) is available for just re-programming the board.

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## Powering the Board and Observing the Demo Program

- Connect the USB-A to USB 3 Micro-B cable between J8 of the VVML board and the PC
- Blue LED, D14, should be blinking
- Open the camera app on the PC, you may need to click on the change camera icon to switch away from the PC camera and to the camera on the board
- The demo shows a green bounding box when it detects a human face in front of the camera

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## Doing More with the CrossLink-NX-33 VVML Development Board

Check the Lattice website at [www.latticesemi.com/crosslink-nx-33-vvml-board](http://www.latticesemi.com/crosslink-nx-33-vvml-board) to download the full User's Guide, the full source code of the default demo, and other resources. You can use the Lattice Radiant software to develop and program your own demos.

### Additional Terms and Conditions Applicable to Lattice Programming and Development Hardware

Lattice device programmers, programming cables, socket adapters, and other hardware sold for use in conjunction with Lattice software ("Programming Hardware") and Lattice evaluation boards and development kits sold for use in conjunction with evaluating Lattice products ("Development Hardware") are designed and intended for use solely with semiconductor components manufactured by Lattice Semiconductor Corporation. Programming and Development Hardware is warranted to meet Lattice specifications only for a period of ninety (90) days; in all other respects the terms and conditions of sale of Programming and Development Hardware shall be Lattice's standard terms and conditions set forth in Lattice's Sales Order Acknowledgment. Additionally, Lattice specifications for Programming and Development Hardware limit their use to low-volume engineering applications only, and not for volume production use. The warranty for Programming and Development Hardware will not apply to any Programming or Development Hardware used in production, used with worn or improperly installed hardware, or used with incompatible systems or components.

### Technical Support

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