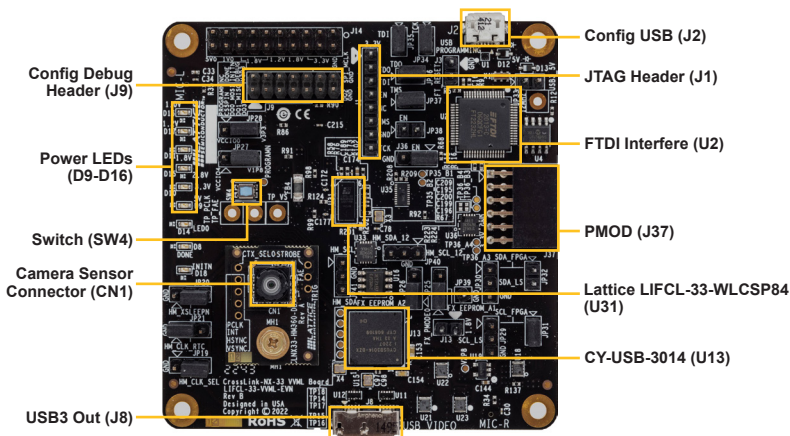This document provides a brief introduction to the CrossLink-NX-33 Voice and Vision Machine Learning (VVML) Board.

Config Debug Header (J9)

Power LEDs (D9-D16)

Switch (SW4)

Camera Sensor Connector (CN1)

USB3 Out (J8)

Config USB (J2)

JTAG Header (J1)

FTDI Interfere (U2)

PMOD (J37)

Lattice LIFCL-33-WLCSP84 (U31)

CY-USB-3014 (U13)

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 to develop a new design.

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

LATTICE
SEMICONDUCTOR

4 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

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

Check the Lattice website at 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.

Technical Support

www.latticesemi.com/support