This document provides a brief introduction on how to operate the iCE40 Ultra Wearable Development Platform. Please refer to the iCE40 Ultra Wearable Development Platform web page at www.latticesemi.com/ultrawearable for further details on the demos and boards.

1 Check Kit Contents

The iCE40 Ultra Wearable Development Platform contains the following items:

- Main Board
- Sensor Board
- MIPI DSI Display
- Lithium-Polymer Battery
- Watch strap
- Mini-USB cable
- Quick Start Guide

The iCE40 Ultra Wearable Development Platform can be permanently damaged due to mechanical stresses during assembly and disassembly. In order to mitigate the risk of damage, please observe the following tips:

- Lift the LCD from the top of the board with a hinging motion toward the bottom edge. This minimizes the stress on the display's ribbon cable (see image in section 3)
- Use a thin, flat tool to separate the display's connector (J2) in order to minimize stress on the ribbon cable
- Use care to keep the Main and Sensor boards parallel while separating them. Too much tilting may cause the headers to break off from the board

Static electricity can shorten the lifespan of electronic components. Please observe these tips to prevent any damage that could occur from electro-static discharge:

- Use anti-static precautions such as operating on an anti-static mat and wearing an anti-static wristband
- Store the board in the anti-static packaging foam provided
- Touch the metal USB housing to equalize voltage potential between you and the board

2 Install the Development Software

The iCE40 Ultra Wearable Development Platform comes preloaded with bitstreams for the Parallel to DSI Video Demo.

Additional demos can be found on the Lattice Ultra Wearable Development Platform web page at www.latticesemi.com/ultrawearable.

In order to load these demos or develop custom programs, Lattice Diamond (version 3.4 or later) and iCEcube2 must be installed. Visit www.latticesemi.com/software for instructions on how to download the software and obtain a license.

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③ Run the Parallel to DSI Video Demo

The Ultra Wearable Development Platform comes pre-loaded with the Parallel to DSI Video Demo. In order to run the demo, follow these steps:

- Ensure that the display is attached in the proper orientation, with the connector ribbon extending toward the right edge of the device (see image)
- Plug a mini-USB cable into the mini-USB port (J1) to supply power to the device
- Switch power switch to the on position
- The screen should alternate between two images, with the User LEDs (D4, D5) indicating the demo mode

④ Done!

You have successfully started using the iCE40 Ultra Wearable Development Platform. Refer to EB100, the iCE40 Ultra Wearable Development Platform User Guide, for the following:

- Detailed information on the board and the reference design
- Configuring the on-board interfaces and devices
- Developing custom programs

This guide and further information can be found on the iCE40 Ultra Wearable Development Platform web page at www.latticesemi.com/ultrawearable.

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