Welcome to the AM65x/DRA80xM Industrial Development Kit (IDK) Quick Start Guide. This guide is designed to help you through the initial setup of the board. This IDK allows you to experience industrial applications which showcase the AM65x/DRA80xM Quad-Core Cortex®-A53, Dual-Core Cortex-R5F, gigabit PRU-ICSS (real-time industrial communications subsystem), and more. The IDK contains the following:

**Hardware**

- AM6548/DRA804M Quad Core Cortex®-A53 function equivalent processor
- IDK Application card
- 2-lane PCIe SerDes card
- 4GB DDR4 with ECC
- On board 16 GB eMMC
- On board 512Mb OSPI Flash

**Printed Documents**

- AM65x/DRA80xM IDK Quick Start Guide (this document)

**Miscellaneous**

- 1 SD card
- 1 USB 2.0 cable
- 1 Ethernet cable

**Not included in box**

The following hardware is not included in the box and must be procured separately:

1. Power supply. Use one of the following power supply options for powering up the IDK. Pick a power supply with all the applicable regional product regulatory/safety certification requirements such as UL, CSA, VDE, CCC, PSE, etc.

   The **DIN connector power supply is recommended to provide enough power for applications that make use of the PCIe interface.**

2. 1280 x 800 LCD Display Accessory Kit. The LCD is optional and can be purchased separately using TI part number TMDSLCD1EVM.

---

**Connector Specifications Examples**

<table>
<thead>
<tr>
<th>Connector</th>
<th>Specifications</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power DIN, 4 Pin</td>
<td>+24VDC, 5A Output (Max)</td>
<td>CUI Inc. SDI120-24-U-P51</td>
</tr>
<tr>
<td>Barrel Plug, 2.5mm I.D. x 5.5mm O.D. x 9.5mm</td>
<td>+24VDC, positive center, 2.71A Output (Max)</td>
<td>CUI Inc. SDI65-24-UD-P6</td>
</tr>
</tbody>
</table>
Optional: If you have purchased the LCD Accessory Kit, assemble the LCD onto the IDK following the instructions included with the LCD Accessory Kit.

Insert the SD card into the IDK. Alternatively, download and install the latest Processor SDK-RTOS from http://www.ti.com/tool/processor-sdk-am65x, create a bootable SD card and insert it into the IDK.

Connect a power supply (not included) to the DIN connector or power jack on the IDK and plug it in to an AC power source. Do not connect both, only one power supply must be connected.

Connect the supplied USB debug cable to the USB connector labeled “UART” on the board. Connect the other end to your PC. Then open a serial console on your PC such as Teraterm. Please note that you may need to download and install an FTDI driver from http://www.ftdichip.com/FTDrivers.htm.

Default setup (TI-RTOS boot from SD card)
Optional: If you plan to use Code Composer Studio (CCS) IDE to control the IDK, you must use another USB cable connected to the USB connector labeled “XDS110_USB” on the board. Refer to [http://software-dl.ti.com/processor-sdk-RTOS/esd/docs/latest/RTOS/How_to_Guides.html#host](http://software-dl.ti.com/processor-sdk-RTOS/esd/docs/latest/RTOS/How_to_Guides.html#host) for details about CCS setup.

Turn on the IDK by sliding the toggle switch to the right. To turn off, slide the toggle switch the left.

Note: This IDK is designed for optional use with a removable CR2032 UL recognized lithium battery (not supplied). Always use the CR2032VP Energizer 3V Lithium coin cell battery or similar CR2032 UL recognized battery with Nominal Voltage 3.0 Volts, Capacity 235mAh

For more information on AM65x processors, including:
- User Guide
- Software
- How To
- Design Files

Please visit [www.ti.com/am65x](http://www.ti.com/am65x)

For support questions, please contact: support@ti.com or [www.ti.com/e2e](http://www.ti.com/e2e)
IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2019, Texas Instruments Incorporated