



# **Linux Board Port Overview for Sitara AM-Class Devices: AM33x, AM43x, and AM57x**

**Linux Board Port Process Resources**

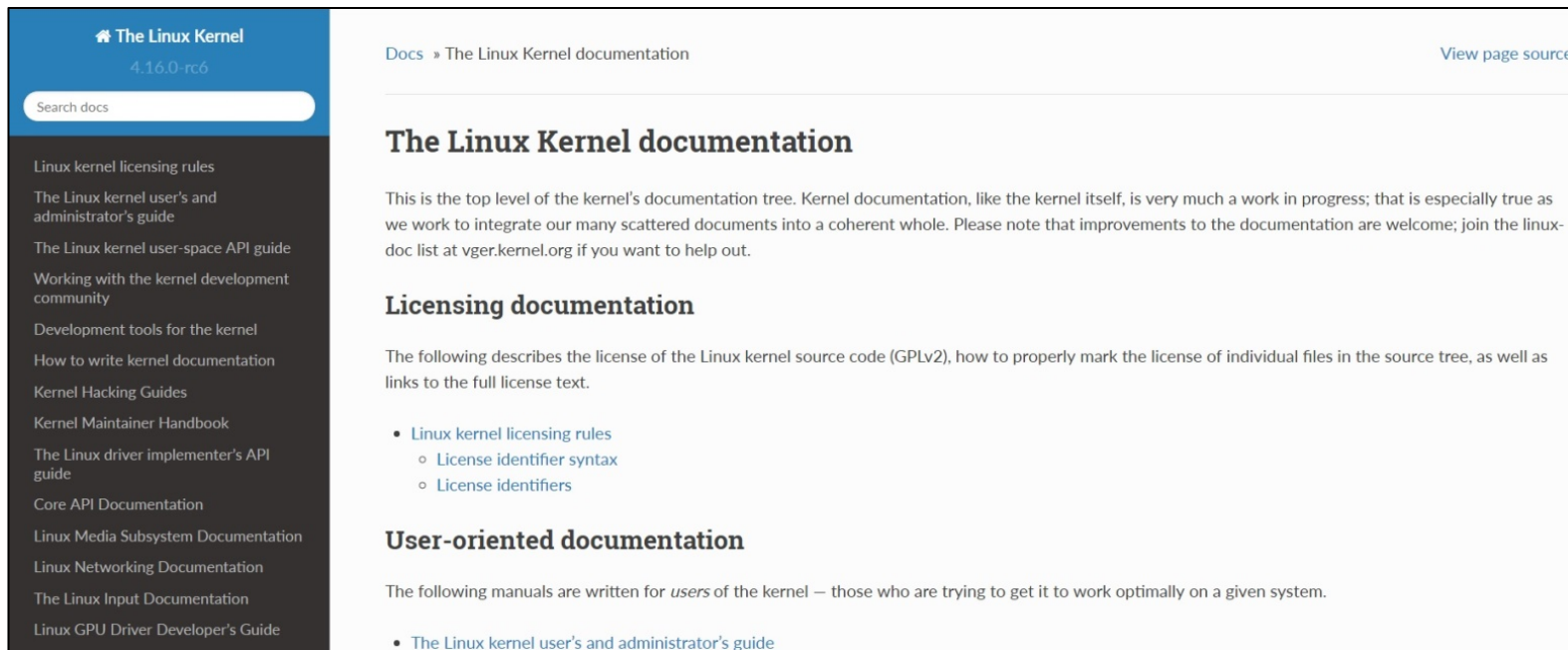


## Section overview: Linux board port process resources

- What kernel documentation is available
- PinMux Tool
- TI Linux Kernel User Guide
- TI Linux Software Developer's Guide

# Linux board port process resources: Kernel documentation

- What kernel documentation is available?
  - <https://www.kernel.org/doc/html/latest/>



The screenshot shows the Linux Kernel documentation website. The header includes 'The Linux Kernel' and '4.16.0-rc6'. A search bar is present. The left sidebar lists various documentation topics such as 'Linux kernel licensing rules', 'The Linux kernel user's and administrator's guide', and 'Kernel Hacking Guides'. The main content area features the title 'The Linux Kernel documentation' and an introductory paragraph. Below this, there are sections for 'Licensing documentation' and 'User-oriented documentation', each with a list of links to related documents.

Docs » The Linux Kernel documentation [View page source](#)

## The Linux Kernel documentation

This is the top level of the kernel's documentation tree. Kernel documentation, like the kernel itself, is very much a work in progress; that is especially true as we work to integrate our many scattered documents into a coherent whole. Please note that improvements to the documentation are welcome; join the linux-doc list at [vger.kernel.org](mailto:vger.kernel.org) if you want to help out.

### Licensing documentation

The following describes the license of the Linux kernel source code (GPLv2), how to properly mark the license of individual files in the source tree, as well as links to the full license text.

- [Linux kernel licensing rules](#)
  - [License identifier syntax](#)
  - [License identifiers](#)

### User-oriented documentation

The following manuals are written for *users* of the kernel – those who are trying to get it to work optimally on a given system.

- [The Linux kernel user's and administrator's guide](#)

- Location of DTS bindings in the kernel source tree: `documentation/devicetree/bindings`

# Linux board port process resources: PinMux Tool

## PinMux Tool

- Download the tool

<http://www.ti.com/tool/pinmuxtool>

or run it from TI Cloud Tools

- PinMux Tool Wiki page

[http://processors.wiki.ti.com/index.php/TI\\_PinMux\\_Tool](http://processors.wiki.ti.com/index.php/TI_PinMux_Tool)

Part Number	Buy from Texas Instruments or Third Party	Status	Current Version	Version Date	Host	OS	Description
PINMUXTOOL_DESKTOP_PREVIOUS: Archived version of desktop Pin Mux tool supporting AM35x, AM/DM37x, DM816x. V4 is recommended for new Sitara designs	Free <a href="#">View</a>	ACTIVE	v2 and v3	previous		Windows, Linux	Standalone desktop versions of the tool. Device and OS support vary by version
PINMUXTOOL-V4-CLOUD: PinMux tool for Simplelink, Sitara, C28, Tiva, and IWR/AWR mmWave sensors	Free <a href="#">View</a>	ACTIVE	v4	JAN-15-2018	Windows, Linux, OS X		Browser-based tool access via TI Cloud Tools portal. Automatic solving, high-level requirements entry for configuring device mux settings

### TI PinMux Tool

#### Contents [hide]

- 1 Overview
- 2 Which Version should I use?
  - 2.1 Archived Versions
- 3 Getting Started
- 4 Dependencies on Linux
- 5 Support
- 6 Access the latest Cloud PinMux Tool
- 7 Target Specific Documentation

#### Overview

PinMux determines a mux configuration for your system once you've specified the peripheral signals your system requires external pinouts for. This determination is automatic based on your requirements - you do not need to manually try multiple configurations or resolve conflicts. Once determined, the tool can either generate source code that configures the device at runtime, or a summary file showing the configuration.

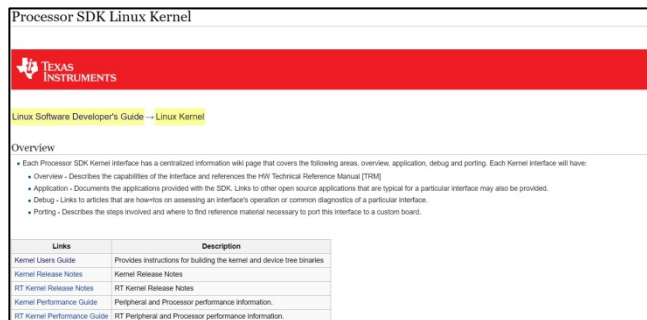
#### Which Version should I use?

In general, you want the latest version of the tool that supports your device as some parts will only be supported in specific versions of the tool. Older versions may not have the same feature set as newer versions.

# Linux board port process resources: User guides

- Linux Software Developer's Guide: Linux Kernel

[http://processors.wiki.ti.com/index.php/Processor\\_SDK\\_Linux\\_Kernel](http://processors.wiki.ti.com/index.php/Processor_SDK_Linux_Kernel)

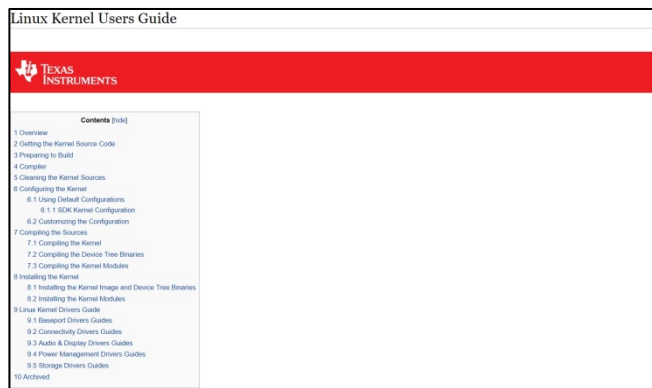


The screenshot shows the top portion of the 'Processor SDK Linux Kernel' page. It features the Texas Instruments logo and a navigation link for the 'Linux Software Developer's Guide -- Linux Kernel'. Below this is an 'Overview' section with a bulleted list of topics: Overview, Application, Debug, and Porting. At the bottom of the screenshot is a table with two columns: 'Links' and 'Description'.

Links	Description
Kernel Users Guide	Provides instructions for building the kernel and device tree binaries
Kernel Release Notes	Kernel Release Notes
RT Kernel Release Notes	RT Kernel Release Notes
Kernel Performance Guide	Peripheral and Processor performance information.
RT Kernel Performance Guide	RT Peripheral and Processor performance information.

- TI Processors Linux SDK Kernel User's Guide

[http://processors.wiki.ti.com/index.php/Linux\\_Kernel\\_Users\\_Guide](http://processors.wiki.ti.com/index.php/Linux_Kernel_Users_Guide)



The screenshot shows the 'Linux Kernel Users Guide' page. It features the Texas Instruments logo and a 'Contents' section with a list of numbered links. The list includes sections for Overview, Getting the Kernel Source Code, Preparing to Build, Compiler, Cleaning the Kernel Sources, Configuring the Kernel (with sub-sections for default and SDK configurations), Compiling the Sources, Installing the Kernel (with sub-sections for image and modules), Linux Kernel Drivers Guide (with sub-sections for Baseband, Connectivity, Audio & Display, and Power Management), and Storage Drivers Guide.

- Overview
- Getting the Kernel Source Code
- Preparing to Build
- Compiler
- Cleaning the Kernel Sources
- Configuring the Kernel
  - 6.1 Using Default Configurations
  - 6.1.1 SDK Kernel Configuration
  - 6.2 Customizing the Configuration
- Compiling the Sources
  - 7.1 Compiling the Kernel
  - 7.2 Compiling the Device Tree Binaries
  - 7.3 Compiling the Kernel Modules
- Installing the Kernel
  - 8.1 Installing the Kernel Image and Device Tree Binaries
  - 8.2 Installing the Kernel Modules
- Linux Kernel Drivers Guide
  - 9.1 Baseband Drivers Guides
  - 9.2 Connectivity Drivers Guides
  - 9.3 Audio & Display Drivers Guides
  - 9.4 Power Management Drivers Guides
  - 9.5 Storage Drivers Guides
- Archived



# Conclusions: Linux board port overview

- Abstractions speed up and simplify ports.
- The elements of the Linux Board Port show the recommended steps.
- There are a variety of reference resources available.
- Most importantly, be prepared that the Linux board port is an iterative process.

# For more information

- Processor SDK Training Series:  
<https://training.ti.com/processor-sdk-training-series>
- For questions about this training, refer to the E2E Community Forums for Sitara Processors at [http://e2e.ti.com/support/arm/sitara\\_arm/f/791/t/277411](http://e2e.ti.com/support/arm/sitara_arm/f/791/t/277411)



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