

Application Note for DA9063 Linux Device Driver

Application Notes Version Information

Application note version: 003

Version number	Release date	Description
003	2022-03-02	Rebranded document with new logo, copyright and disclaimer
002	2015-09-24	Document template update and addition of device tree information
001	2014-05-01	Initial version of the application note

Introduction

The purpose of this document is to describe the release of the DA9063 Power Management IC Linux Device Driver package. It will cover the following: (1) content of this release; (2) an overview of how to incorporate the source code into the target; (3) build and loading instructions and; (4) a description of the features provided by this driver.

These instructions will cover the device driver content and the device tree data where appropriate. It is expected that anyone reading this document will have a good understanding of the Linux kernel.

Dependencies

This release depends upon a clean, correctly compiled and working Linux kernel linux-mainline tree, tag v4.2 (or later). This external kernel is not provided by Dialog Semiconductor. The kernel is provided by The Linux Kernel Archives (<https://www.kernel.org/>). The tag v4.2 (or later) can be checked out from the Linux kernel linux-mainline repository.

System Requirements

- Linux kernel source linux-mainline v4.2 (or later)
- Dialog Semiconductor DA9063

Features

The following features are supported by the DA9063 Power Management IC Linux Device Driver:

- MFD, I2C and IRQ support
 - Support for 11 LDO and 6 BUCK regulators
 - OnKey support with software suspend and software shutdown
 - Real-time clock and alarm
 - Watchdog timer functionality
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Installation

All DA9063 device driver sources come as part of the Linux kernel.

In addition to this, further steps are required to fully integrate the device driver into the kernel tree. This includes the addition of any necessary device tree files in order to plug the devices into the host platform. Configuration of the Linux build system is also required to include the new components.

Compilation

The build instructions for the Linux kernel are provided within the kernel source tree. See the top level Linux kernel README for further instructions.

Interfaces

Device Driver Interface

This section describes the interfaces supported by the DA9063 PMIC driver:

- Control Interface I2C: the driver supports the I2C interface for control of the device.
- Sysfs Interface: the driver natively supports the kernel's sysfs framework. Each component provides a set of file access points under the kernel directory /sys.

Device Tree Interface

The current support for device tree can be found in the binding documentation. DT bindings for the DA9063 are available at the following location. For future DT updates, please refer to the kernel commit logs.

```
./Documentation/devicetree/bindings/mfd/da9063.txt
```

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Status Definitions

Status	Definition
DRAFT	The content of this document is under review and subject to formal approval, which may result in modifications or additions.
APPROVED or unmarked	The content of this document has been approved for publication.

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