DA14592 SDK

Release Notes

This document contains the release notes for Renesas Electronics DA14592 Software Development Kit, version 10.1.2.86.

Contents

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1. Terms and Definitions

GA	General access
LA	Limited access
XiP	Execute in Place
GPU	Graphics Processing Unit
BT-LE or BLE	Bluetooth LE
ADC	Analog to Digital Converter
DMA	Direct Memory Access
UART	Asynchronous Serial Receive/Transmit Port
SPI	Serial Peripheral Interface
I2C	Inter-Integrated Circuit interface
QSPI	Quad SPI
GPIO	General Purpose Input/output
RTC	Real Time Clock
BOD	Brown Out Detection
M33, M0+	Processing Cores
RAM	Random Access Memory
API	Application Programming Interface
SUOTA	Software Update Over The Air
TRNG	True Random Number Generator
HCI	Host Controller Interface
IRQ	Interrupt Request
SDK	Software Development Kit
OS	Operating System
LLD	Low Level Driver
FW	Firmware

2. Release Data

Table 1. Release data

Device Number	DA14592
Device Type	Multi-Core Wireless Microcontroller
Device Revision	DA14592-01
Operating System	FreeRTOS
Operating System Version	10.4.4
Software Release Date	Jan 11, 2024
Software Version Number	10.1.2.86
Software Release Type (Note 1)	GA

Note 1 Releases can be of the following types: FULL (GA), FULL (LA), RELEASE CANDIDATE, ENGINEERING, PATCH or BINARY

3. License

Licenses covering this DA14592 SDK release are listed in the licensing.txt file in doc folder.

4. Release Description

4.1 Overview

This is a GA release of SDK v.10.1.2.86, which adds support for the DA14592 device. It is suitable for application development, testing and final product design.

The DA14592 SDK follows the SDK10 architecture used in DA1469x and DA1470x device families, with the necessary changes dictated by the DA14592 capabilities.

The SDK10 SW architecture include:

i. FreeRTOS Operating System

ii. Code execution in-place from internal eFLASH or external QSPI Flash

iii. BLE Framework API using the Adapter/Manager Layers

iv. Abstraction layer with low level drivers (LLDs) and adapters for peripheral devices

This release implements basic SDK architecture, including the BLE framework.

4.2 New and Updated Features of SDK v.10.1.2.86

Table 2. SDK v.10.1.2.86 features

Feature number	Description
0000	L2CAP COC
0001	Low Duty Cycle Advertising
0002	LE Data Packet Length Extension (DLE)
0003	LE 2Mbps
0004	SUOTA (Software Update Over The Air)
0005	Bluetooth Host subsystem can be updated as part of full application SUOTA
0006	Bluetooth Controller subsystem can be updated as part of full application SUOTA
0007	Bluetooth protocol ROM code can be patched as part of full application SUOTA
0008	BLE services in the SDK release: • Battery Service, • Body Composition Service, • Blood Pressure Service, • Bond Management Service, • Current Time Service, • Device Information Service, • Debug Service, • HID Service, • Heart Rate Service, • Immediate Alert Service, • Link Loss Service, • Scan Parameters Service, • Tx Power Service, • User Data Service, • Weight Scale Service
0009	XiP (cached) from eFLASH
0010	XiP (cached) from QSPI
0011	QSPI Flash Drivers
0012	NVMS partitions
0013	Timers Low-Level Driver
0014	RTC Low-Level Driver
0015	Watchdog Low-Level Driver and FreeRTOS tasks management subsystem
0016	Audio subsystem
0017	Peripherals (e.g. UART, I2C, SPI, GPIOs, GPADC, SDADC, etc) Low-Level Drivers
0018	Peripherals Adapters
0019	BLE Example Applications
0020	FreeRTOS 10.4.4
0021	OS Abstraction Layer
0022	Renesas E2 Studio Support

Feature number	Description
0023	SmartSnippets Toolbox Support
0024	Supported by GNU / GCC toolset
0025	Supported by SWD

4.3 Known issues of SDK v.10.1.2.86

You can find an active list of known limitations maintained online:

https://lpccs-docs.renesas.com/da1459x_kll/index.html

Appendix A Software Versioning Rules

This describes the software version numbers and does not apply to documentation version numbers (as found in the footer of this document).

Each software version number string consists of four numbers: MAJOR. BRANCH. MINOR. and BUILD.

#MAJOR: It is increased (by one only) if the project undergoes a major modification, for example major ROM changes. It usually changes only when the project sources undergo major restructuring affecting most of the repository. It is initialized at 1.

#BRANCH: Used in the case of concurrent projects that for special reasons need to be spun off the major repository. It corresponds to different versions of the repository code that have to be supported concurrently. In this case each branch number corresponds to a different GIT branch. The basic project has BRANCH id 0.

#MINOR: Odd numbers indicate Engineering (or Patch or Binary) versions, even numbers indicate Full release versions or Release Candidates of Full versions. Each Full release increases this number by one. After the Full release, the number is increased by one again. Therefore, Project releases correspond to release numbers like 2.0.1.xxx, 2.0.2.xxx. etc. The #MINOR number is initialized at 1.

#BUILD: The # BUILD number increases by one at every repository update and thus indicates the total number of changes since repository initialization. The BUILD number is initialized at 1.

Document Revision History

This section summarizes the changes made to this document and not to the Software that this document describes.

Revision	Date	Description
01.00	Jan 11, 2024	First version.

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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