GR551x Software Development Kit Release Note

Version: 2.0.2

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1 SDK V2.0.2

The GR551x Software Development Kit (SDK) V2.0.2 is updated based on the previous version V2.0.1.

1.1 Release Overview

1.1.1 Release Package

Table 1-1 Release package

Folder	Description
build	Link-related tools and scripts
components	Bluetooth LE API header, library, and source files
documentation	API reference. For more documents, visit GR551x Series: Documentation.
drivers	Driver interface source code and header files
external	Third-party library source code and header files
platform	Link-related files
projects	Example project files and source code
tools	Installation packages for mobile or PC tools, including GProgrammer, GRUart, GRPLT Lite Config Tool, GRDirect Test Mode Tool, and GRToolbox. Available at GR551x Series: Software & Tools.

1.1.2 Notices

- Major updates based on the previous version include new features, functional changes, and fixed bugs.
- The whole SDK has been comprehensively retested based on the following environments.

Table 1-2 Item version

Item	Name & Version
IDE	Keil MDK-ARM Version 5.20
SoC	GR551x series (GR5515IGND, GR5515IENDU, GR5515I0NDA, GR5515RGBD, GR5515GGBD, GR5513BEND, and GR5513BENDU)
Platform	Windows 7/10
Tools	• GProgrammer V1.2.41 • GRUart V2.1 • GRToolbox V2.16 • GRPLT Lite Config Tool V1.1.5 • GRDirect Test Mode Tool V1.5.2 • GRPLT V1.5.0.0.6

1.1.3 Limitations

- The GR551x SDK might not work in versions earlier than Keil V5.20.
- There may be some problems with SEGGER J-Link and Keil.

  Visit https://www.segger.com/IDE_Integration_Keil.html#knownproblems for more details.

1.2 New Features

1.2.1 System

- Supported GCC Hardware Floating Point Unit.

1.2.2 Drivers

- Added an AON WDT API to read the reset flag.

1.2.3 Examples and Libraries

- Added an implementation mechanism to the ADC driver to measure the temperature and vbattery of the SoC.

1.3 Functional Changes

1.3.1 System

- The system will no longer enter the while(1) loop if NVDS initialization fails.

1.4 Fixed Bugs

1.4.1 System

- Enhanced stability at both high and low temperatures.
- Reduced the overhead of the main stack in C.
- Optimized the PMU calibration strategy.
- Optimized the calibration mechanism in the SDK. For ICs with large frequency offsets, calibration will be performed with higher frequency.
- Fixed a bug that could cause reduction in voltage supplied to SRAM due to a large gap between AON LDO voltage and Digcore voltage.
- Reduced the code size of the template project compiled in GCC.

1.4.2 Bluetooth LE

- Fixed a bug about the compatibility that occurred when a mobile phone acted as GATT Client to search services on another mobile phone.
- Fixed a bug that could cause failure to enable advertising in a connection complete event.
- Fixed a bug about compatibility of 2M PHY on some mobile phones.

1.4.3 Drivers

- Fixed a bug that could cause hal_uart_get_state unable to return correct TX state which might lead to wait for a timeout or asynchronous reception completion before exiting app_uart_flush.
- Fixed a bug that could cause errors during ADC multi-channel sampling, and enhanced stability of the ADC driver.
- Fixed a bug that could cause an error in C++ compilation for HAL and LL drivers.
- Fixed a bug where hal_adc_start_dma was non-reentrant.
- Fixed a bug that could cause hal_pwm_update_freq unable to output PWM waveforms in some scenarios.

- Fixed a bug that could cause operation in blocking state due to timeout of hal_adc_poll_for_conversion.
- Fixed a bug that could cause impact on UART RX due to MSIO de-initialization.

1.4.4 Examples and Libraries

- Corrected the path of *custom_config.h* referenced in peripheral projects of the SDK.

1.5 Known Issues