

ANT_S212_nrf52832_0.6.0.alpha release notes

Contents

ANT_S212_nrf52832_0.6.0.alpha	2
SoftDevice Properties	2
Compatibility	2
New functionality	2
Changes	3
Bug fixes	3
Limitations	3
Known Issues	4
ANT_S212_nrf52832_0.5.1.alpha	5
SoftDevice Properties	5
Compatibility	5
Bug fixes	5
ANT_S212_nrf52832_0.5.0.alpha	6
SoftDevice Properties	6
Compatibility	6
New functionality	6
Bug fixes	6
Limitations	7
ANT_S212_nrf52832_0.3.0.alpha	8
SoftDevice Properties	8
Compatibility	8
New functionality	8
Changes	8
Bugfixes	8
Limitations	8

ANT_S212_nrf52832_0.6.0.alpha

The ANT_S212_nrf52832_0.6.0.alpha SoftDevice for the nRF52 platform is based upon the S210_nrf51422_5.0.0 SoftDevice for the nRF51 platform.

The ANT_S212_nrf52832_0.6.0.alpha is the third alpha release of ANT_S212.

Notes:

- This is a major release which has changed the Application Programmer Interface (API), requiring application(s) to be recompiled.

SoftDevice Properties

- There is no SoftDevice Specification corresponding to this release. The S210 SoftDevice Specification v3.0.0 is applicable in large parts. It is available on the [Nordic Infocenter](#).
- This version of the SoftDevice contains the Master Boot Record (MBR) version 2.0.0-1.alpha
- The combined MBR and SoftDevice memory requirements for this version is as follows:
 - Flash: **72kB** (0x12000 bytes)
 - RAM: **2.56kB** (0xA00 bytes)

Compatibility

Compatible with Eng Rev B and Eng Rev C.

New functionality

- **SoftDevice**
 - The `sd_ecb_block_encrypt()` SV call now puts the CPU to sleep while waiting for the encryption to complete. In addition, a new SV call, `sd_ecb_blocks_encrypt()`, has been added to perform multiple block encryptions in a single call (DRGN-6359).
- **ANT**
 - Search Uplink feature now available. Search Uplink allows Acknowledged messages and Bursts to be received when using Background Scan. Broadcast and Acknowledged messages can also be sent to devices from the Background Scan channel. Latency is also reduced in sending messages to devices when the devices are acquired from Search. See migration notes for additional details.

Changes

- **SoftDevice**

- A new MBR (2.0.0-1) is included with this release. The size has been reduced to 4KB in code memory (DRGN-6134, DRGN-6609, DRGN-5436). In order to issue the `SD_MBR_COMMAND_COPY_BL` and `SD_MBR_COMMAND_VECTOR_TABLE_BASE_SET` commands to the bootloader `UICR.NRFFW[1]` must be set to an address corresponding to a page in the application flash space. This page will be cleared by the MBR and used to store parameters before reset. When the `UICR.NRFFW[1]` field is set the page it refers to should not be used by the application. If the `UICR.NRFFW[1]` is set to `0xFFFFFFFF` (the default) all MBR commands will return `NRF_ERROR_NO_MEM` and DFU will be unavailable.
- The CPU Cache is now turned on when enabling the SoftDevice (DRGN-6479).
- SoftDevice assert handling has been completely overhauled. The application now provides a pointer to the new `nrf_fault_handler_t` callback type that handles all types of unrecoverable errors. The file name and line number parameters to this callback have been replaced by parameters including the program counter of the instruction that triggered the error (DRGN-6587).
- The SV call handler has been optimized to reduce overhead when invoking SV calls from the application (DRGN-6692).

Bug fixes

- **SoftDevice**

- The whole of the RAM is no longer configured not to go into low-power mode when entering either CPU idle (WFE, WFI) or SYSTEM OFF (DRGN-6635).
- The DebugMonitor interrupts are now correctly forwarded by the MBR (DRGN-6242).
- Pointers addressing the Code RAM section are now permitted as parameters to the SoftDevice (DRGN-6535).

Limitations

- **SoftDevice**

- If Radio Notifications are enabled, flash write and flash erase operations initiated through the SoftDevice API will be notified to the application as Radio Events (FORT-809).

Known Issues

- **SoftDevice**
 - Temperature based calibration of the RC low frequency clock source does not work. (DRGN-5429).
 - Due to nRF52832 Errata-73, the SoftDevice leaves TIMER0 running at all times which results in 5uA increased average current between ANT events (DRGN-6647).

ANT_S212_nrf52832_0.5.1.alpha

The ANT_S212_nrf52832_0.5.1.alpha SoftDevice for the nRF52 platform is based upon the S210_nrf51422_5.0.0 SoftDevice for the nRF51 platform.

The ANT_S212_nrf52832_0.5.1.alpha is the second alpha release of ANT_S212.

SoftDevice Properties

- There is no SoftDevice Specification corresponding to this release. The S210 SoftDevice Specification v3.0.0 is applicable in large parts. It is available on the [Nordic Infocenter](#).
- This version of the SoftDevice contains the Master Boot Record (MBR) version 1.1.0-2.alpha
- The combined MBR and SoftDevice memory requirements for this version is as follows:
 - Flash: **72kB** (0x12000 bytes)
 - RAM: **2.56kB** (0xA00 bytes)

Compatibility

Tested on Eng Rev B.

Bug fixes

- **SoftDevice**
 - Fixed a problem where memory was being incorrectly loaded by the softdevice scatter file.

ANT_S212_nrf52832_0.5.0.alpha

The ANT_S212_nrf52832_0.5.0.alpha SoftDevice for the nRF52 platform is based upon the S210_nrf51422_5.0.0 SoftDevice for the nRF51 platform.

The ANT_S212_nrf52832_0.5.0.alpha is the second alpha release of ANT_S212.

SoftDevice Properties

- There is no SoftDevice Specification corresponding to this release. The S210 SoftDevice Specification v3.0.0 is applicable in large parts. It is available on the [Nordic Infocenter](#).
- This version of the SoftDevice contains the Master Boot Record (MBR) version 1.1.0-2.alpha
- The combined MBR and SoftDevice memory requirements for this version is as follows:
 - Flash: **72kB** (0x12000 bytes)
 - RAM: **2.56kB** (0xA00 bytes)

Compatibility

Tested on Eng Rev B.

New functionality

ANT functionality in the ANT_S212_nrf52832_0.5.0.alpha SoftDevice for the nRF52 platform is equivalent to the content in the Nordic ANT_S212_nrf52832_0.3.0.alpha SoftDevice.

- **SoftDevice**
 - A variable called `p_license_key` has been added to the `sd_softdevice_enable()` call for the SoftDevices that include ANT. If this license key is set incorrectly the SoftDevice will not enable. An evaluation key can be found in `nrf_sdm.h` which will enable the full stack, however you may use the evaluation key for non-commercial use only, under the terms described in the `license.pdf` file included in the root directory of the ANT_S212 .zip file. It is a requirement to obtain and use a commercial use license key with the S212 in any product that is sold or otherwise distributed for revenue-generating purposes. Commercial use license keys will be made available by ANT Wireless. Further information about obtaining a license key can be found here: <https://www.thisisant.com/developer/ant/licensing>

Bug fixes

- **SoftDevice**
 - Fixed a problem which prevented application from enabling the Floating-Point Unit (FPU) when running from the Process Stack Pointer (PSP) (DRGN-6556).

Limitations

- **SoftDevice**
 - If Radio Notifications are enabled, flash write and flash erase operations initiated through the SoftDevice API will be notified to the application as Radio Events (FORT-809).

ANT_S212_nrf52832_0.3.0.alpha

The ANT_S212_nrf52832_0.3.0.alpha SoftDevice for the nRF52 platform is based upon the S210_nrf51422_5.0.0 SoftDevice for the nRF51 platform. The ANT_S212_nrf52832_0.3.0.alpha is the first alpha release of s212.

SoftDevice Properties

- There is no SoftDevice Specification corresponding to this release. The S210 SoftDevice Specification v3.0.0 is applicable in large parts. It is available on the [Nordic Infocenter](#).
- This version of the SoftDevice contains the Master Boot Record (MBR) version 1.1.0
- The combined MBR and SoftDevice memory requirements for this version is as follows:
 - Flash: **72kB** (0x12000 bytes)
 - RAM: **2.5kB** (0xA00 bytes)

Compatibility

The ANT_S212_nrf52832_0.3.0.alpha is restricted to use with nRF52832 IC rev Engineering A.

New functionality

ANT functionality in the ANT_S212_nrf52832_0.3.0.alpha SoftDevice for the nRF52 platform is equivalent to the functionality in the S210_nrf51422_5.0.0 SoftDevice for the nRF51 platform.

Changes

- API changes from **S210_nrf51422_5.0.0**
 - New event: NRF_EVT_FLASH_OPERATION_VERIFY_FAILED, only available on nRF52
 - sd_flash_protect() has been changed to be compatible both with nRF52 and with future nRF51 releases.

Bugfixes

There are no bug fixes in this release.

Limitations

- **MBR**
 - The MBR in this release uses 12 kB of flash, meaning that the SoftDevice start address is 0x3000. This is subject to change in future releases (DRGN-5436).
- **SoftDevice**
 - If Radio Notifications are enabled, flash write and flash erase operations initiated through the SoftDevice API will be notified to the application as Radio Events (DRGN-5197).