s112_nrf52 release notes

Introduction to the s112_nrf52 release notes

About the document

These release notes describe the changes in the s112_nrf52 from version to version.

The release notes are intended to list all relevant changes in a given version. They are kept brief to make it easy to get an overview of the changes. More details regarding changes and new features can be found in the s112_nrf52 migration document (normally available for major releases only).

Issue numbers in parentheses are for internal use and should be disregarded by the customer.

s112_nrf52810_5.1.0-2.alpha

The S112 is a size-optimized peripheral only BLE SoftDevice for Nordic Semiconductor's nRF52810 chip. The S112 API is a compatible subset of the S132 SoftDevice API. For features that are common to S112 and S132, the API is the same. To show the API compatibility, the S112 follows the same version numbering as S132. See the section "Changes" below for features that are not available in the S112 compared to the S132.

SoftDevice properties

- The combined MBR and SoftDevice memory requirements for this version are as follows:
  - Flash: **100 kB** (0x19000 bytes)
  - RAM: **3.65 kB** (0xe98 bytes)

Device Compatibility

This SoftDevice is built and tested for nRF52810.
For development purposes this SoftDevice can be run on the nRF52832, but some of the Errata workarounds for that device are not present in this version of the alpha SoftDevice. This may result in minor performance and stability issues on nRF52832.

New functionality

This release is the first version of the S112. It is based upon the s132_nrf52_5.0.0, and has no new functionality compared to that version.

Changes

Compared to the s132_nrf52_5.0.0, the following features have been removed

- SoftDevice:
  - MWU is not supported, as the nrf52810 does not have MWU (DRGN-9341).
  - Cache is not supported, as the nrf52810 does not have Cache (DRGN-9256).
- GAP:
  - Observer role is still present in this alpha version of the SoftDevice, but might be removed for the production version.
  - Central Role is no longer supported and the following functions, structures and events have been removed (DRGN-9145).
    - `sd_ble_gap_connect()`, `sd_ble_gap_connect_cancel()`
    - `sd_ble_gap_encrypt()`
    - `BLE_GAP_EVT_CONN_PARAM_UPDATE_REQUEST`
    - `ble_gap_evt_conn_param_update_request_t`
    - `BLE_GAP_OPT_COMPAT_MODE_1`
    - `ble_gap_opt_compat_mode_1_t`
    - `BLE_GAP_ROLE_CENTRAL`, `BLE_GAP_ROLE_COUNT_CENTRAL_DEFAULT`, `BLE_GAP_ROLE_COUNT_CENTRAL_SEC_DEFAULT`
  - LE Data Length Extension is no longer supported and the following structures and events have been removed (DRGN-9242).
    - `sd_ble_gap_data_length_update()`
    - `BLE_GAP_EVT_DATA_LENGTH_UPDATE_REQUEST`, `BLE_GAP_EVT_DATA_LENGTH_UPDATE`
    - `BLE_GAP_DATA_LENGTH_AUTO`
    - `ble_gap_data_length_params_t`, `ble_gap_data_length_limitation_t`
    - `ble_gap_evt_data_length_update_request_t`, `ble_gap_evt_data_length_update_t`
- L2CAP:
  - L2CAP Connection Oriented Channels is no longer supported and the header file *ble_l2cap.h* with it's functions, structures, defines and events has been removed (DRGN-9238).
    - `sd_ble_l2cap_ch_setup()`, `sd_ble_l2cap_ch_release()`, `sd_ble_l2cap_ch_rx()`, `sd_ble_l2cap_ch_tx()`, `sd_ble_l2cap_ch_flow_control()`
    - `ble_l2cap_ch_rx_params_t`, `ble_l2cap_ch_setup_params_t`, `ble_l2cap_ch_tx_params_t, ble_l2cap_conn_cfg_t`
    - `BLE_L2CAP_EVT_CH_SETUP_REQUEST`, `BLE_L2CAP_EVT_CH_SETUP_REFUSED`, `BLE_L2CAP_EVT_CH_SETUP`, `BLE_L2CAP_EVT_CH_RELEASED`, `BLE_L2CAP_EVT_CH_SDU_BUF_RELEASED`, `BLE_L2CAP_EVT_CH_CREDIT`, `BLE_L2CAP_EVT_CH_RX`, `BLE_L2CAP_EVT_CH_TX`
    - `ble_l2cap_evt_t, ble_l2cap_evt_ch_tx_t`, `ble_l2cap_evt_ch_rx_t`, `ble_l2cap_evt_ch_credit_t`, `ble_l2cap_evt_ch_sdu_buf_released_t`, `ble_l2cap_evt_ch_setup_request_t`, `ble_l2cap_evt_ch_setup_refused_t`, `ble_l2cap_evt_ch_se`

`tup_t`

Bug fixes

Compared to the S132 5.0.0 SoftDevice.

- SoftDevice
  - Fixed an issue where Radio Notification could be suppressed between connection events when Connection Event Length Extension was enabled (DRGN-7687).

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).
  - Synthesized low frequency clock source is not tested or intended for use with the BLE stack.
  - Applications must not modify the `SEVONPEND` flag in the `SCR` register when running in priority levels higher than 6 (priority level numerical values lower than 6) as this can lead to undefined behavior.
- GATTS
  - To conform to the Bluetooth Core Specification v 5.0, there shall be no secondary service that is not referenced somehow by a primary service. The SoftDevice does not enforce this (DRGN-906).

Known Issues

No known issues.