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nRF5 SDK v11.0.0-2.alpha

Memory layout

*This information applies to the following SoftDevices: **S130, S132***

When implementing a mechanism to perform a Device Firmware Update, you must be aware of where in the device memory the different firmware components are located.

During system start-up, the Master Boot Record will determine the start address of the bootloader by checking the address that is defined at UICR.NRFFW[0] (which can also be accessed by UICR.BOOTLOADERADDR on nRF51 devices). See [Relocating the bootloader](#) for information on how to change the start address of the bootloader.

The MBR will then initiate the bootloader. During initialization, the bootloader will either enter DFU mode to perform a firmware update or request the SoftDevice to start the application. The application is located right after the SoftDevice, so the SoftDevice is aware of its start address.

Firmware updates can be performed as dual-bank or single-bank updates. See [Dual-bank and single-bank updates](#) for more information and a detailed description of the update process.

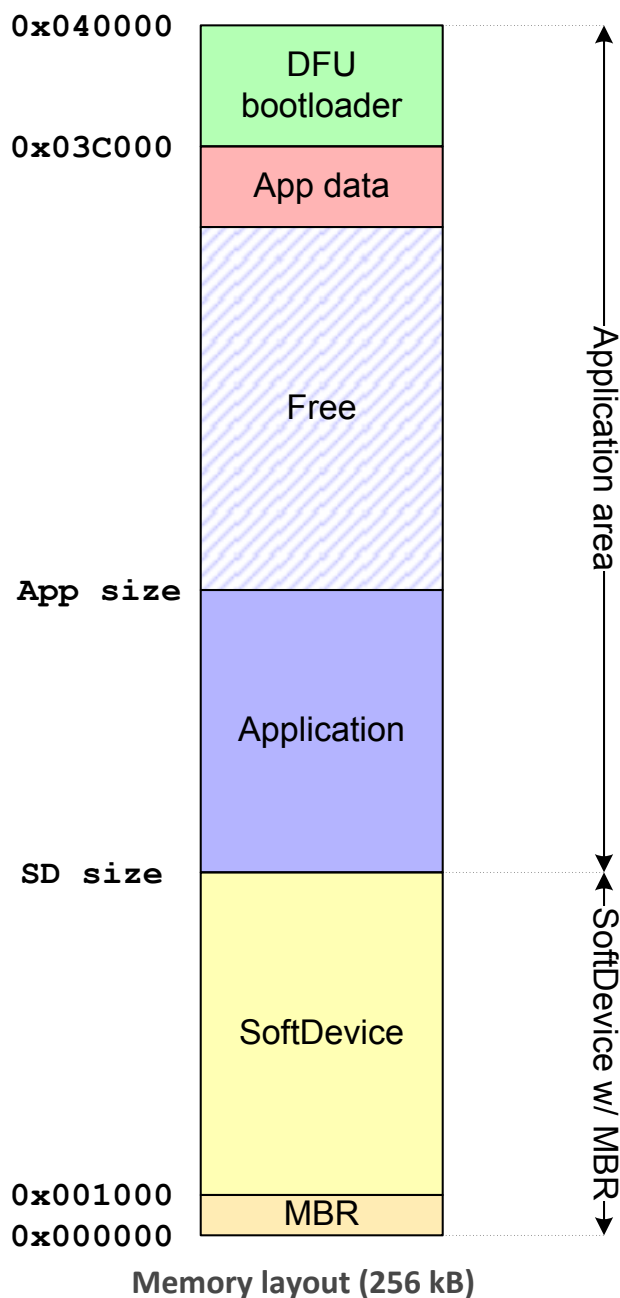
Application data can be preserved during an update. See [Preserving application data](#) for instructions.

Default memory layout

SoftDevices have different sizes. For example, the S13x SoftDevice v2.0.0-7.alpha ends at 0x0001B000.

nRF51 Series devices

The following figure displays the default memory layout of a 256 kB nRF51 device:

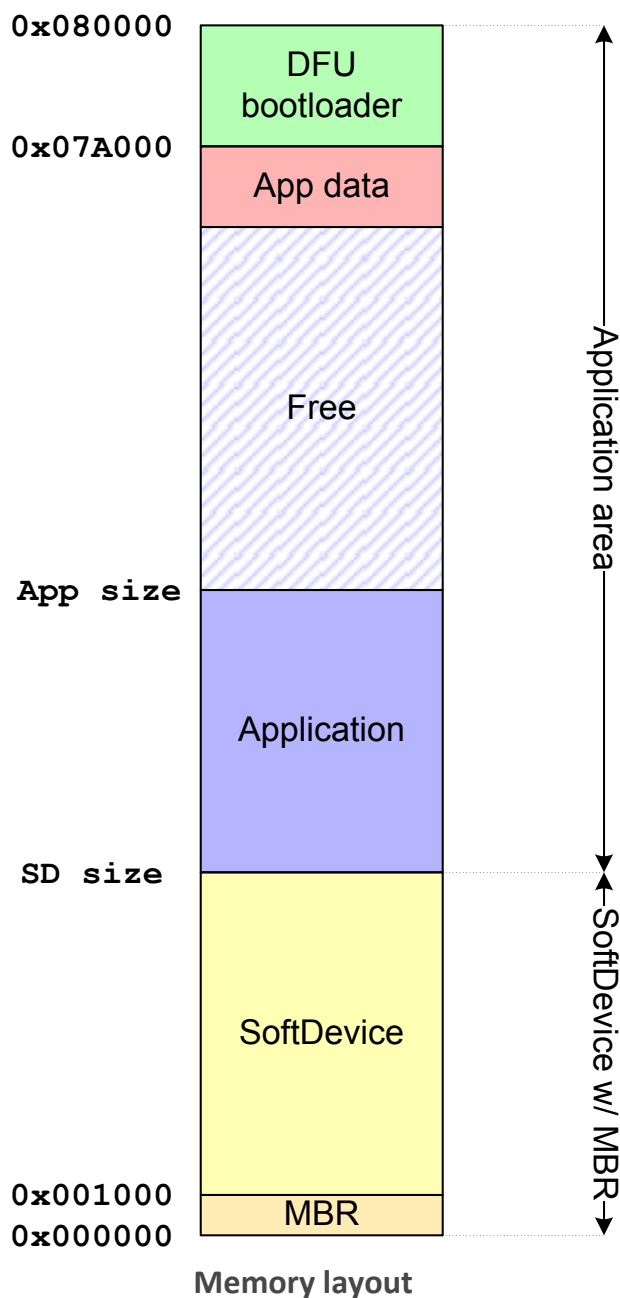


The following table shows the memory layout on a 256 kB nRF51 device with the S130 SoftDevice v2.0.0-7.alpha:

Memory range	Usage
0x0003C000 - 0x00040000	DFU Bootloader and data
0x0001B000 - 0x0003C000	Application code, free/swap, and application data
0x00001000 - 0x0001B000	SoftDevice
0x00000000 - 0x00001000	Master Boot Record (MBR)

nRF52 Series devices

The following figure displays the default memory layout of a 512 kB nRF52 device:



The following table shows the memory layout on a 512 kB nRF52 device with the S132 SoftDevice v2.0.0-7.alpha:

Memory range	Usage
0x0007A000 - 0x00080000	DFU Bootloader, data, and MBR parameters
0x0001B000 - 0x0007A000	Application code, free/swap, and application data
0x00001000 - 0x0001B000	SoftDevice
0x00000000 - 0x00001000	Master Boot Record (MBR)

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