

# nRF52 DK

Development kit for Bluetooth LE, Bluetooth mesh, ANT and 2.4 GHz applications

## Product overview

The nRF52 DK is a single-board development kit (DK) for Bluetooth Low Energy, Bluetooth mesh, ANT and 2.4 GHz proprietary applications using the nRF52810 and nRF52832 SoCs.

It facilitates development exploiting all features of the nRF52810 and the nRF52832 SoCs. It includes an NFC antenna that quickly enables utilization of the NFC-A tag peripheral on the nRF52832. The kit gives access to all I/Os and interfaces via edge connectors and has 4 LEDs and 4 buttons which are user-programmable.

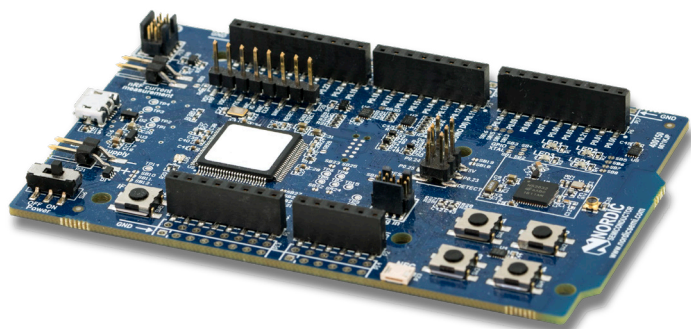
The kit is compatible with the Arduino Uno Revision 3 standard, making it possible to use 3rd-party shields that are compatible to this standard.

It comes with an on-board SEGGER J-Link debugger allowing programming and debugging both the on-board SoC and external SoCs through the debug out header.

It can be powered by USB or by an external source, but also includes a CR2032 battery holder, enabling in-field testing of prototypes.

A range of software examples are available from the nRF5 software development kit (SDK) to support Bluetooth LE, ANT and 2.4 GHz applications. For Bluetooth mesh development, check out nRF5 SDK for Mesh. SEGGER Embedded Studio, Keil, GCC and IAR IDEs and toolchains are supported.

The box includes an nRF52 DK board, an NFC antenna and a CR2032 battery. Hardware layout and schematics are available free of charge.



## KEY FEATURES

- Affordable, rapid prototyping and development solution for the nRF52810 and nRF52832 SoCs
- Supports Bluetooth LE, Bluetooth mesh, ANT and 2.4 GHz proprietary development
- Bluetooth 5 feature support: 2 Mbps, Advertising Extensions and Channel Selection Algorithm #2 (CSA #2)
- Arm® Cortex™ M4 with floating point support
- DSP instruction set
- Arduino Uno Rev. 3 compatible for use with 3rd party shields
- All I/Os and interfaces are available via connectors
- Segger J-Link OB programming/debugging supported
- Support for programming/debugging of external boards
- Integrated 2.4 GHz PCB antenna
- NFC antenna
- Connector for external NFC antenna
- Connector for RF measurements
- Pins for power consumption measurements
- Coin-cell battery holder
- 1.7-3.6 V supplied from battery, USB or external

## APPLICATIONS

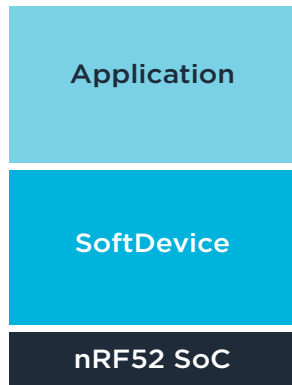
- Internet of Things (IoT)
- Wearables
- Accessories
- Desktop peripherals
- Remote controls
- Sports & medical
- Smartwatch
- Smarthome sensors
- Lighting
- Toys
- Industrial sensors
- A4WP wireless charging
- Beacons

## KIT CONTENT

- nRF52 DK board
- 2032 battery
- NFC antenna

### nRF52 Series software architecture

The nRF52 Series software architecture offers a clean separation between application code and Nordic's embedded protocol stacks (called SoftDevices). There are no compile, link and run-time dependencies. Application code can be developed and compiled independently of the protocol stack. This simplifies overall development efforts and reduces the possibility and complexity of bugs during development.



### SoftDevices

The nRF52 DK is supported by a range of protocol stacks. These protocol stacks are known as SoftDevices and complement the nRF52 Series SoCs. SoftDevices can support Bluetooth Low Energy, ANT or Bluetooth Low Energy/ANT combinations. This brings maximum flexibility to application development and allows the latest stack version and associated features to be programmed into the nRF52 Series SoC.

### nRF52 DK compatible SoftDevices

S112	Memory-optimized Bluetooth 5 protocol stack for the nRF52810, nRF52811 and nRF52832 SoCs
S132	High performance Bluetooth 5 protocol stack for the nRF52810 and nRF52832 SoCs
S212	ANT stack for the nRF52810 and nRF52832 SoCs
S312	Combined Bluetooth 5 and ANT protocol stack for the nRF52810 SoC
S332	Combined Bluetooth 5 and ANT protocol stack for the nRF52832 SoC

### nRF5 Series software development kit

The nRF5 software development kit (SDK) is available from Nordic Semiconductor to support the nRF52 Series SoCs. The nRF5 SDK contains a wide range of software modules, complete examples and useful utilities. The nRF52 SDK is a great starting point for beginning building your applications.

### About Arduino Uno Rev 3 connector standard

The Arduino Uno Rev. 3 is a popular HW format for simple, rapid prototyping using Arduino Uno compatible shields. Shields conforming to the Arduino Uno Rev. 3 standard can be used with the nRF52 DK.

### RELATED PRODUCTS

nRF52840 DK	Development kit for nRF52811 and nRF52840 SoCs
nRF52840	SoC for Bluetooth 5/Bluetooth mesh/802.15.4/Thread/Zigbee/ANT/2.4 GHz
nRF52832	SoC for Bluetooth 5/Bluetooth mesh/ANT/2.4 GHz
nRF52811	SoC for Bluetooth 5.1/802.15.4/Thread/Zigbee/ANT/2.4 GHz
nRF52810	SoC for Bluetooth 5/ANT/2.4 GHz
nRF5 SDK	Main software development kit for Bluetooth 5, ANT and 802.15.4
nRF5 SDK for Mesh	Software development kit for Bluetooth mesh
Power Profiler Kit	Current measurement tool for embedded development

### ORDER INFORMATION

nRF52-DK	Development kit for the nRF52810 and nRF52832 SoCs
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## WORLD WIDE OFFICE LOCATIONS

Headquarters:  
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### For more information

Visit [nordicsemi.com](http://nordicsemi.com) for the complete product specification about this and any other wireless ULP products.

### About Nordic Semiconductor

Nordic Semiconductor is a fabless semiconductor company specializing in ULP short-range wireless communication. Nordic is a public company listed on the Norwegian stock exchange.

