

# nRF5340 DK

Development kit for the nRF5340, a dual-core Bluetooth 5.3 SoC supporting Bluetooth Low Energy, Bluetooth mesh, NFC, Thread and Zigbee



## Overview

The nRF5340 DK is the development kit for the [nRF5340 System-on-Chip](#) (SoC), containing everything needed to get started with development, on a single board.

The DK supports development with an extensive range of wireless protocols. It supports Bluetooth Low Energy with features such as high-throughput 2 Mbps, Advertising Extensions and Long Range. Mesh protocols like Bluetooth mesh, Thread and Zigbee can run concurrently with Bluetooth LE, enabling Matter or HomeKit based applications. NFC, ANT, 802.15.4 and 2.4 GHz proprietary protocols are also supported.

The DK is bundled with an NFC antenna that quickly enables testing of nRF5340's NFC-A tag functionality. A SEGGER J-Link debugger is on the board, enabling full-blown programming and debugging, of both the nRF5340 SoC and external targets.

All analog and digital interfaces, and GPIOs are available via headers and edge connectors. The kit is Arduino Uno Rev3 hardware compatible, meaning it can be easily interfaced with external device shields.

Four buttons and four LEDs simplify input and output to and from the nRF5340 SoC, and are all user-programmable. An on-board external memory is connected to the 96 MHz QSPI peripheral in the nRF5340 SoC.

The nRF5340 DK is typically powered via USB, but can be powered by a wide range of sources, within the supply range of 1.7 to 5.0 V. In addition, it can be powered with an external source, it also includes a CR2032 battery holder and a Li-Po battery connector, for in-field testing. Current consumption can be measured by using the dedicated current measurement pins, for example by using Nordic's Power Profiler Kit II.

## Key features

- Versatile development kit for nRF5340 SoC
- Arduino Uno Rev3 compatible
- 2.4 GHz and NFC antennas
- SWF RF connector for direct RF measurements
- User-programmable LEDs(4) and buttons(4)
- SEGGER J-Link OB programmer/debugger
- Pins for measuring power consumption
- 1.7-5.0 V supply from USB, external, Li-Po battery or CR2032 coin cell battery

## nRF5340 SoC

- High-performance application processor
  - 128/64 MHz Arm Cortex-M33 with FPU & DSP instructions
  - 1 MB Flash + 512 KB RAM
- Fully programmable, ultra-low-power network processor
  - 64 MHz Arm® Cortex®-M33 with 2 KB instruction cache
  - 256 KB Flash and 64 KB RAM
- Arm TrustZone® and Arm CryptoCell-312
- Trusted execution, root-of-trust, secure key storage
- Bluetooth Low Energy
  - Bluetooth 5.3
  - LE Audio
  - Direction Finding
  - 2 Mbps, Advertising Extensions and Long Range
- Bluetooth mesh
- Matter, Thread, Zigbee and 802.15.4
- NFC
- Full range of digital interfaces with EasyDMA
  - 96 MHz encrypted QSPI for external memory
  - 32 MHz high speed SPI for displays and fast sensors
  - 4×UART/SPI/TWI, UART/SPI/TWI
  - 12 Mbps full-speed USB, I<sup>2</sup>S, PDM, 4×PWM, 2×QDEC
- 12-bit 200 ksps ADC
- 105 °C extended operating temperature
- 1.7-5.5 V supply voltage range

## Applications

- LE Audio
- Professional lighting
- Industrial
- Advanced wearables
- Medical
- Smart Home

## nRF5340 SoC

The [nRF5340 SoC](#) is the nucleus of the nRF5340 DK. It combines a high-performance application processor with a fully programmable, ultra-low-power network processor. The 128 MHz Arm® Cortex®-M33 application processor has 1 MB flash and 512 KB of RAM, while the 64 MHz Arm Cortex-M33 network processor has 256 KB Flash and 64 KB RAM. It supports advanced security features such as trusted execution, root-of-trust and secure key storage. It supports Bluetooth Low Energy and is capable of all angle-of-arrival and angle-of-departure roles in Direction Finding, in addition to LE Audio, high-throughput 2 Mbps, Advertising Extensions, and Long Range features. It is the ideal choice for audio, professional lighting, advanced wearables, asset tracking, and other complex IoT applications.

## nRF Connect SDK

The [nRF Connect SDK](#) is the software development kit for the nRF5340 SoC, and it has board support for the nRF5340 DK. It supports development of Bluetooth Low Energy, Thread and Zigbee applications. It integrates the Zephyr RTOS, protocol stacks, samples, hardware drivers and much more.

nRF Connect SDK also supports the nRF9160, our LTE-M/NB-IoT/GPS SiP, and the nRF52 Series. It is a common platform for both cellular IoT and short-range development.

In the box you will find the nRF5340 DK itself, an NFC antenna and a CR2032 battery, in addition to a note telling you where to go to get started.

## Related Products

<a href="#">nRF5340 SoC</a>	SoC supporting Bluetooth Low Energy, Bluetooth mesh, Thread and Zigbee
<a href="#">nRF Connect SDK</a>	Software development kit for the nRF5340
<a href="#">Power Profiler Kit II</a>	Easy-to-use power measurement tool

## Order information

<a href="#">nRF5340-DK</a>	Development kit for the nRF5340 SoC
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The nRF5340 DK is available for purchase through our distribution network.

## nRF5340 DK

