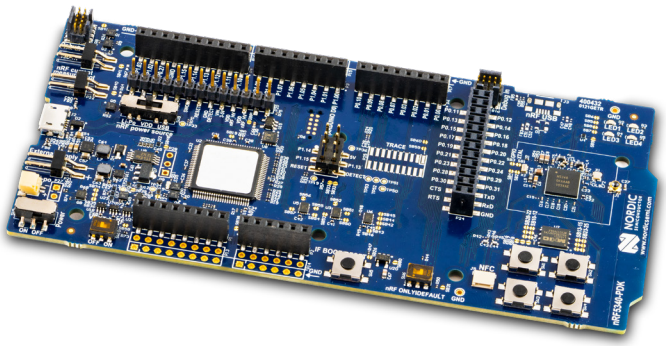
nRF5340 PDK

Preview development kit for the nRF5340, a dual processor SoC supporting Bluetooth 5.1, Bluetooth mesh, NFC, Thread & Zigbee



Overview
The nRF5340 PDK is the preview development kit for the nRF5340 SoC, containing everything needed to get started with development, on a single board.

The PDK supports development with an extensive range of wireless protocols. It supports Bluetooth Low Energy and all Bluetooth 5 features, including Long Range, 2 Mbps and Advertising Extensions. Mesh protocols like Bluetooth mesh, Thread and Zigbee can be run concurrently with Bluetooth LE, enabling smartphones to provision, commission, configure and control mesh nodes. NFC, ANT, 802.15.4 and 2.4 GHz proprietary protocols are also supported.

The PDK is bundled with an NFC antenna that quickly enables testing of nRF5340's NFC-A tag peripheral. 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, including Nordic's Power Profiler Kit.

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

The PDK is typically powered with USB, but can be powered by a wide range of sources, within the supply range of 1.7 to 5.0 V. In addition to USB, it can be powered with external source, but also includes a CR2032 battery holder and a Li-Po battery connector, for in-field testing. Power source is selected with the "nRF power source" switch. Current consumption can be measured by using the dedicated current measurement pins.

KEY FEATURES

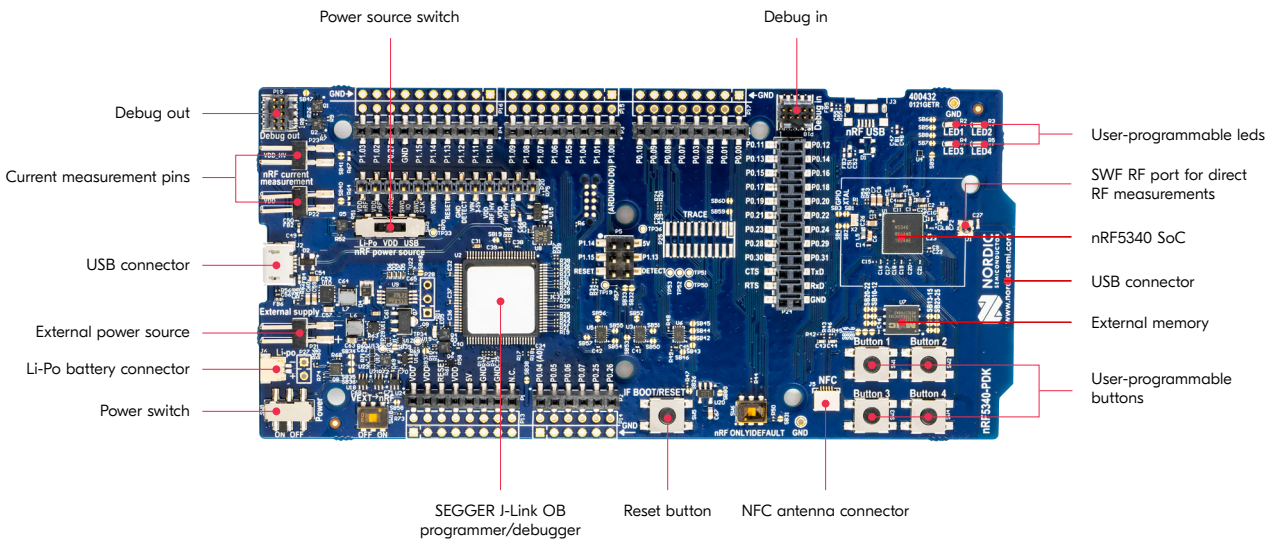
- Versatile preview development kit for nRF5340 SoC
- Arduino Rev3 compatible
- 2.4 GHz and NFC antennas
- SWF RF connector for direct RF measurements
- User-programmable LEDs(4) and buttons(4)
- SEGGER J-Link OB programmer/debugger
- Pins for measuring power consumption
- 1.7-5.0 V supply from USB, 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
  - 8 KB 2-way set associative cache
- Fully programmable, ultra-low-power network processor
  - 64 MHz Arm® Cortex®-M33 with 2 KB instruction cache
  - 256 KB Flash and 64 KB RAM
- Trusted execution with Arm TrustZone®
- Root-of-trust with Arm CryptoCell-312
- Ultra-low-power 2.4 GHz multiprotocol radio
  - Bluetooth 5.1 Direction Finding capable
  - Bluetooth 5 Long Range
  - Bluetooth mesh, Thread and Zigbee
- NFC
- Full range of digital interfaces with EasyDMA
  - 12 Mbps full-speed USB
  - 96 MHz encrypted QSPI for external memory
  - 32 MHz high speed SPI for displays and fast sensors
  - 4×UART/SPI/TWI, UART/SPI/TWI
  - I2S, PDM, 4×PWM, 2×QDEC
- 12-bit 200 ksps ADC
- 105 °C extended operating temperature
- 1.7-5.5 V supply voltage range

APPLICATIONS

- Professional lighting
- Industrial
- Advanced wearables
- Medical
- Smart Home
- Asset tracking and RTLS



nRF5340 SoC
The nRF5340 SoC is the nucleus of the nRF5340 PDK. 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 is a truly secure SoC supporting advanced security features like root-of-trust and trusted execution. The extensive wireless protocol support in combination with an extended operating temperature up to 105 °C and advanced digital interfaces, like HS-SPI, QSPI and USB, makes it the ideal choice for professional lighting, advanced wearables, 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 PDK. It also supports the nRF9160, our LTE-M/NB-IoT/GPS SiP, offering a common platform for cellular IoT and short-range development. It offers a complete solution integrating the Zephyr RTOS, protocol stacks, application samples and hardware drivers. The nRF Connect SDK is publicly hosted on GitHub, offers source code management with Git and has free SEGGER Embedded Studio IDE support.

The nRF5340 PDK is for evaluation purposes only, it is a preview development kit, and will be replaced by the nRF5340 DK when the nRF5340 SoC is closer to being production ready.

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

The nRF5340 PDK is available through our distribution network.

For more information please visit:
nRF5340 SoC: www.nordicsemi.com/nRF5340
nRF5340 PDK: www.nordicsemi.com/nRF5340PDK

RELATED PRODUCTS

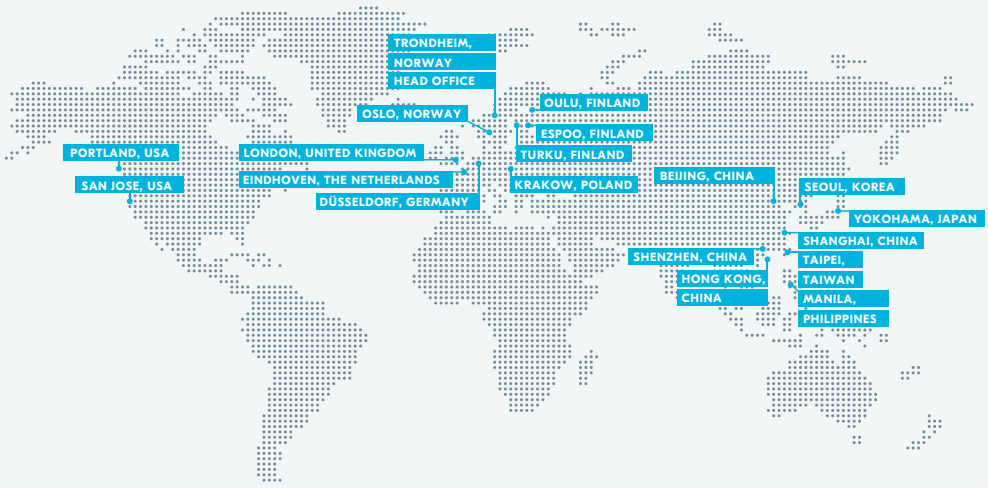
nRF5340 SoC	SoC supporting Bluetooth 5.1, Bluetooth mesh, NFC, Thread & Zigbee
nRF Connect SDK	Software development kit for the nRF5340
Power Profiler Kit	Easy-to-use power measurement tool

ORDER INFORMATION

nRF5340-PDK	Preview development kit for the nRF5340 SoC

WORLD WIDE OFFICE LOCATIONS

Headquarters:
Trondheim, Norway
Tel: +47 72 89 89 00



For more information
Visit **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.

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