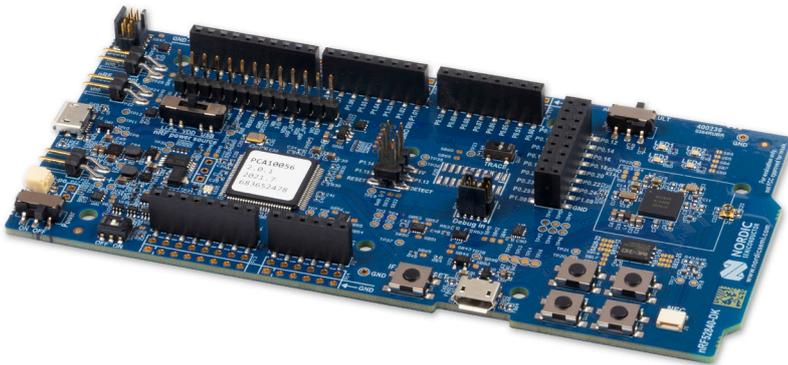


nRF52840 DK

Dual-core Bluetooth 5.3 SoC supporting Bluetooth Low Energy, Bluetooth mesh, NFC, Thread and Zigbee



Product Overview

The nRF52840 DK is an affordable single-board development kit for Bluetooth® Low Energy (LE), Bluetooth mesh, Thread, Zigbee, ANT, 802.15.4 and 2.4 GHz proprietary applications using the nRF52840 multi-protocol SoC. The nRF52840 DK also supports development for the nRF52811 SoC.

The kit is compatible with the Arduino Uno Rev3 standard making it possible to use a wide range of 3rd-party shields during development. The kit has access to all I/Os (48) and interfaces via connectors and there is an integrated PCB trace antenna and an RF connector for direct RF test measurements. There is also a connector for an external NFC antenna (included in kit).

Free software development tools, including the nRF Connect Software development kit, are available to download from www.nordicsemi.com

Ready for Bluetooth 5.3 and high grade IoT security

Inherent industry-grade security is essential in today's applications. The nRF52840 SoC adds best-in-class security for Cortex™-M Series with on-chip ARM® CryptoCell cryptographic accelerator. The nRF52840 is an advanced, highly flexible single chip solution for today's increasingly demanding ULP wireless applications for connected devices on our person, connected living environments and the IoT at large. It is designed ready for the major feature advancements of Bluetooth LE and takes advantage of increased performance capabilities which include long range and high throughput modes.

High link budget for in-home applications

The nRF52840 is the ideal solution for smart connected home applications. It supports both Bluetooth 5's long range feature and also 802.15.4 which is already a popular technology for home networking protocols. With a maximum output power of 8 dBm a total link budget of >111 dBm is achievable for achieving robust communications through objects within the home.

Key features

- Affordable, single-board development kit for the nRF52811 and nRF52840 SoCs
- Bluetooth 5.3 multiprotocol radio
 - 2 Mbps
 - Long Range
 - Advertising Extensions
 - Channel Selection Algorithm #2 (CSA #2)
- IEEE 802.15.4 radio support
 - Thread
 - Zigbee
- Arm® Cortex™-M4 with floating point support
- DSP instruction set
- Arm CryptoCell 310 cryptographic accelerator
- Arduino Rev3 compatible connector for use with 3rd party shields
- All I/Os (48) and interfaces available via connectors
- Segger J-Link on-board programming/debugging supported
- Support for programming/debugging of external boards
- USB interface direct to nRF52840 SoC
- USB interface to power and program/debug
- External memory on-board
- Integrated 2.4 GHz PCB antenna
- NFC antenna
- Connector for external NFC antenna
- SWF RF connector for direct RF measurements
- Pins for power consumption measurements
- 4 × user-programmable buttons
- 4 × user-programmable LEDs
- Coin-cell battery holder
- 1.7-5.5 V supplied from battery, external or USB

Applications

- Advanced wearables
- IoT
- Interactive entertainment devices

Arm CryptoCell 310

The nRF52840 features an on-chip Arm CryptoCell 310 cryptographic hardware accelerator. CryptoCell offers a wide range of ciphers and security features for building solid security into applications from the ground up. Use of CryptoCell also makes associated security operations run faster and uses less processing time and power than equivalent operation carried out in software by the CPU.

OTA-DFU

The nRF52840 is supported by Over-the-Air Device Firmware Upgrade (OTA-DFU). This allows for in the field updates of application and/or protocol stack.

nRF Connect SDK

The nRF Connect SDK is the software development kit for the nRF52 Series development kits. It supports development of Bluetooth Low Energy, Thread and Zigbee applications. It integrates the Zephyr RTOS, protocol stacks, samples, hardware drivers and much more.

The nRF52840 Development Kit is available through Nordic Semiconductors distribution network.

Related products

nRF52_DK	Development kit for the nRF52810 and nRF52832 SoCs
nRF52840	SoC for Bluetooth LE/Bluetooth mesh/802.15.4/Thread/Zigbee/ANT/2.4 GHz
nRF52832	SoC for Bluetooth LE/Bluetooth mesh/ANT/2.4 GHz
nRF52811	SoC for Bluetooth LE/802.15.4/Thread/Zigbee/ANT/2.4 GHz
nRF52810	SoC for Bluetooth LE/ANT/2.4 GHz
nRF Connect SDK	Primary SDK for the nRF52840 Dongle and nRF52 Series development kits
Power Profiler Kit II	Hardware tool for current measurement and power profiling your applications

Order information

nRF52840-DK	Development Kit for nRF52840 SoC
-----------------------------	----------------------------------

Nordic global presence

Head office:
Trondheim, Norway
Tel: +47 72 89 89 00

For more information:
Visit nordicsemi.com/products for full overview of our product range.

About Nordic Semiconductor:
Nordic Semiconductor specializes in ultra-low power Bluetooth Low Energy, Thread, Zigbee and proprietary 2.4 GHz, as well as LTE-M and NB-IoT wireless communication technologies for IoT.



Office locations shown on the map include: HEAD OFFICE TRONDHEIM, OSLO, OULU, STOCKHOLM, TAMPERE, LUND, ESPOO, BRISTOL, TURKU, KRAKOW, WROCLAW, MÜNCHEN, DUSSELDORF, HYDERABAD, BANGALORE, SHENZHEN, HONG KONG, SINGAPORE, SYDNEY, YOKOHAMA, SHANGHAI, TAIPEI, MANILA, ZHUBEI, BEIJING, SEUL, BERKSHIRE, SWINDON, HATFIELD, EINDHOVEN, MINGON, PENNSYLVANIA, MASSACHUSETTS, NEW JERSEY, SOUTH CAROLINA, GEORGIA, FLORIDA, ARIZONA, COLORADO, TEXAS, MINNESOTA, ILLINOIS, INDIANA, OREGON, CALIFORNIA, TEXAS.



For more information please visit: nordicsemi.com/nRF52840DK