nRF7002 EK
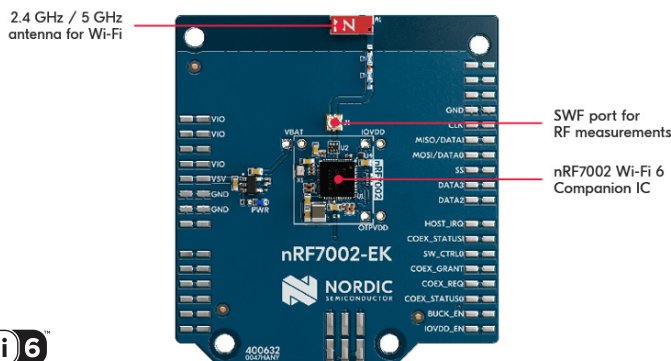
Arduino form-factor Evaluation Kit for adding low-power
Wi-Fi 6 capabilities to Nordic Development Kits

2.4 GHz / 5 GHz antenna for Wi-Fi

SWF port for RF measurements

nRF7002 Wi-Fi 6 Companion IC

Wi-Fi 6

Overview

The nRF7002 EK is a versatile evaluation kit in the form of an Arduino shield. This kit is designed to complement our nRF52840 DK, nRF5340 DK, and nRF9160 DK, providing an easy way to evaluate and harness the power of the nRF70 Series of Wi-Fi companion ICs.

Equipped with the nRF7002 companion IC, the nRF7002 EK unlocks low-power Wi-Fi 6 capabilities for your host device. Seamlessly connect to Wi-Fi networks and leverage Wi-Fi-based locationing, enabling advanced features such as SSID sniffing of local Wi-Fi networks. The nRF7002 is specifically designed to integrate with Nordic's nRF52 and nRF53 Series multiprotocol SoCs, as well as the nRF91 Series cellular IoT SiP. It can also be used alongside non-Nordic host devices.

To communicate with the host processor, the nRF7002 EK supports SPI or QSPI interfaces. The unique wireless coexistence support on the nRF70 Series ensures that protocols such as Bluetooth Low Energy, Thread, or Zigbee can seamlessly co-exist with Wi-Fi. The nRF7002 is fully integrated into Nordic's nRF Connect SDK, making application development simple.

While the nRF7002 DK is a complete development kit, the nRF7002 EK is an evaluation companion, requiring a host development Kit to unleash its potential. By connecting the nRF7002 EK to an nRF52840 DK you can evaluate the cost-effective combination of nRF52840 and nRF7002.

The combination of nRF9160 DK and the nRF7002 EK enables developers to combine the capabilities of cellular IoT and Wi-Fi. A combination of an nRF91 Series cellular SiP and an nRF7000 IC has GNSS, cell-based locationing, and SSID-based Wi-Fi locationing capabilities. This enables the best possible location results in most conditions. The nRF7002 EK can also be used to emulate the nRF7001 and nRF7000 ICs.

Key features

- nRF7002 Wi-Fi Companion IC
- Arduino-shield form factor
- Antenna for 2.4 and 5 GHz
- Board support and samples in nRF Connect SDK
- SWF port for RF measurement

nRF7002 Wi-Fi Companion IC

- 2.4 GHz and 5 GHz dual-band
- Low-power and secure Wi-Fi for the IoT
- Ideal coexistence with Bluetooth LE
- Supported in nRF Connect SDK
- Target Wake Time (TWT)
- SPI / QSPI
- Wi-Fi 6 Station (STA)
- Complies with 802.11a/b/g/n/ac/ax
- 1 Spatial Stream (SS)
- 20 MHz channel bandwidth
- 64 QAM (MCS7), 86 Mbps PHY throughput
- OFDMA (Downlink and Uplink)
- BSS coloring
- Co-existence interfaces

Applications

- Asset tracking
- Battery operated Wi-Fi products
- Machine Learning (ML)
- Matter prototyping
- Smart city & smart agriculture
- Smart home
- Industrial sensors
- Wearables & medical

Order Information

nRF7002-EK	Low-power Wi-Fi 6 evaluation kit in Arduino-shield form factor

Compatible devlopment kits

nRF52840 DK	Bluetooth LE, Bluetooth mesh, NFC, Thread and Zigbee
nRF5340 DK	Dual-core Bluetooth LE, Bluetooth mesh, Thread and Zigbee
nRF9160 DK	LTE-M/NB-IoT, GNSS and Bluetooth Low Energy

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