

nRF7002 EB

The nRF7002 Expansion Board (EB) can be used to provide Wi-Fi connectivity to compatible development or evaluation boards through the nRF7002 Wi-Fi 6 companion IC.

The nRF7002 EB has a Printed Circuit Board (PCB) edge connector that can be used with a compatible development board such as the Nordic Thingy:53, an IoT prototyping platform from Nordic Semiconductor. There are also castellated holes on the side of the board that allow the EB to be used as a breakout board that can be soldered to other PCB assemblies.

Overview

The nRF7002 EB (PCA63561) features a PCB edge connector and castellated holes to provide Wi-Fi connectivity through the nRF7002 companion IC.

The PCB edge connector is used to provide Wi-Fi connectivity to a development board with a compatible connector such as the Nordic Thingy:53, where it connects nRF7002 to nRF5340, which acts as a host. The EB can also be used to provide Wi-Fi capabilities to develop Wi-Fi applications with another System on Chip (SoC), MPU, or MCU host by using the castellated edge holes on the sides of the board.



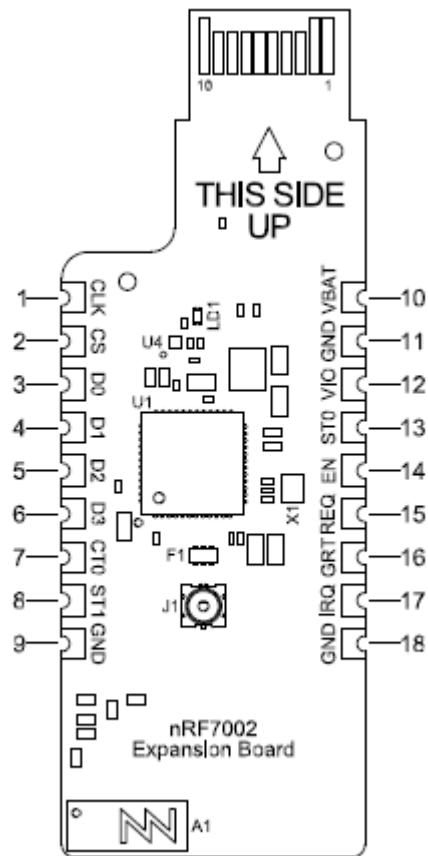
Pin assignment for PCB edge connector

The pinout of the PCB edge connector is shown in the following table.

Pin number	Signal	Function
1	N.C.	Not used
2	N.C.	Not used
3	VIO	IO supply voltage
4	N.C.	Not used
5	ST0	Coexistence Interface Status/Priority signal
6	REQ	Coexistence Interface Request signal
7	N.C.	Not used
8	CLK	SPI Clock signal
9	EN	Power Enable signal
10	N.C.	Not used
11	N.C.	Not used
12	N.C.	Not used
13	N.C.	Not used
14	VBAT	Supply voltage
15	GRT	Coexistence Interface Grant signal
16	D0	SPI MOSI signal
17	D1	SPI MISO signal
18	CS	SPI Chip Select signal
19	IRQ	Host Interrupt signal
20	GND	Ground

Castellated edge holes

Castellated edge holes on the sides of the board connects the nRF7002 EB to the nRF7002 companion IC. The following figure and table show the pinout for the nRF7002 EB.



Castellated edge hole numbering

Pin number	Signal	Function
1	CLK	QSPI Clock/SPI Clock signal
2	SS	QSPI Slave Select/SPI Chip Select signal
3	D0	QSPI DATA0/SPI_MOSI signal
4	D1	QSPI DATA1/ SPI_MISO signal
5	D2	QSPI DATA2 signal
6	D3	QSPI DATA3 signal
7	CT0	SW_CTRL0 (not supported on the nRF7002 EB)
8	ST1	SW_CTRL1
9	GND	Ground
10	VBAT	Supply voltage
11	GND	Ground

Pin number	Signal	Function
12	VIO	IO supply voltage
13	ST0	Coexistence Interface Status/Priority signal
14	EN	Power Enable signal
15	REQ	Coexistence Interface Request signal
16	GRT	Coexistence Interface Grant signal
17	IRQ	Host Interrupt signal
18	GND	Ground

Building

To build for the nRF7002 EB with Thingy:53, use the `thingy53_nrf5340_cpuapp` build target with the CMake SHIELD variable set to `nrf7002eb`. For example, you can use the following command when building on the command line:

```
west build -b thingy53_nrf5340_cpuapp -- -DSHIELD=nrf7002eb
```

To build for a custom target, set `-DSHIELD=nrf7002eb` when you invoke `west build` or `cmake` in your nRF Connect SDK application.

Alternatively, add the shield in the project's `CMakeLists.txt` file by using the following command:

```
set(SHIELD nrf7002eb)
```

To build with the nRF Connect for VS Code extension, specify `-DSHIELD=nrf7002eb` in the Extra Cmake arguments field. See [Providing CMake options](#) for instructions on how to provide CMake options.