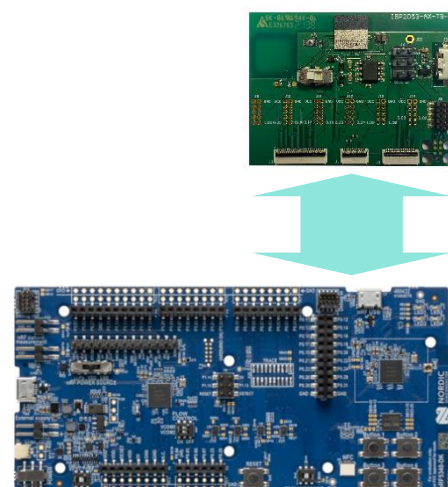


# ISP2053

Application note AN220101



## ISP2053-AX Test Board Connection to Nordic Dev Kit



### Introduction

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#### Scope

This document gives details on hardware setup to connect and program ISP2053-AX module test boards directly from the nRF5340 Nordic Semiconductor Development (PCA10095).

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## Document Revision History

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Revision	Date	Ref	Change Description
R0	17/02/2022	jf	Initial release
R1	28/06/2022	pd pg	Document update layout

## 1. Recommended Documentation

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The following documents and Dev Kits (software portion) are required to understand the complete setup and programming methods:

### Nordic Semiconductor Documents

- ✚ nRF5340 PS (data sheet) for the Nordic Semiconductor device in the ISP module
- ✚ nRF Connect SDK (for software development on the nRF53 Series).

To access documentation, go to:

- ✚ Official Nordic Semi website <http://www.nordicsemi.com>
- ✚ Documentation about nRF Connect SDK  
[https://developer.nordicsemi.com/nRF\\_Connect\\_SDK/doc/latest/nrf/index.html#](https://developer.nordicsemi.com/nRF_Connect_SDK/doc/latest/nrf/index.html#)
- ✚ Ask any Nordic related question and get help <https://devzone.nordicsemi.com/questions>
- ✚ For any question, you can also open a case on the <http://www.nordicsemi.com>

### Software Dev kits

- ✚ nRF Connect for Desktop.
- ✚ nRF Connect SDK which includes source code as well as SES project files.

To access these files, go to [www.nordicsemi.com](http://www.nordicsemi.com) and download the files.

### Insight SiP documents

To complete the above, following documents are available on Insight SiP website or/and on request:

- ✚ AN220101 App Note – this document.
- ✚ ISP2053 Data Sheets
- ✚ ISP2053 Development Boards
- ✚ Application Notes for Development Boards

# Application note AN220101

## 2. Hardware setup

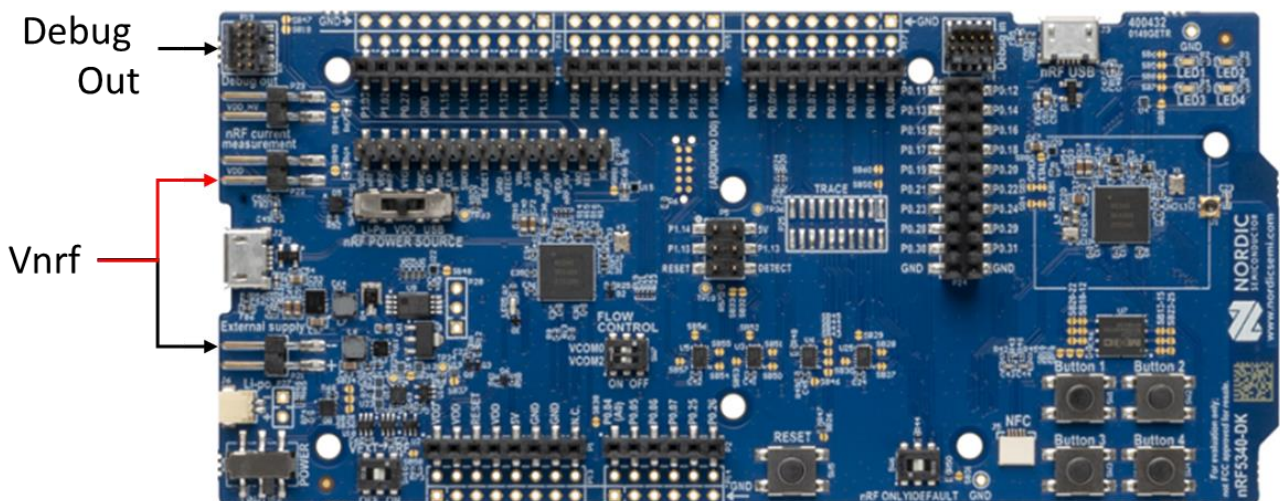
### 2.1. Insight SiP Hardware

ISP2053 Test Board.



### 2.2. Nordic Semiconductor Development Kit setup

For programming the ISP2053 modules, use the PCA10095 board (older board will not work)



### 2.3. Other Hardware

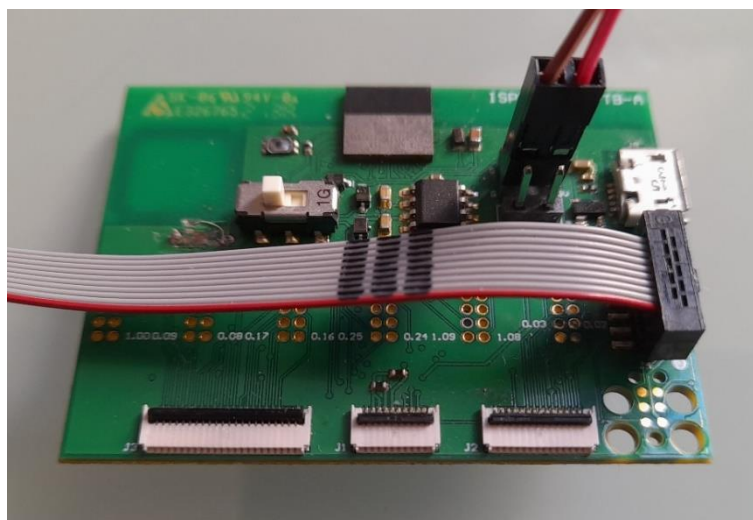
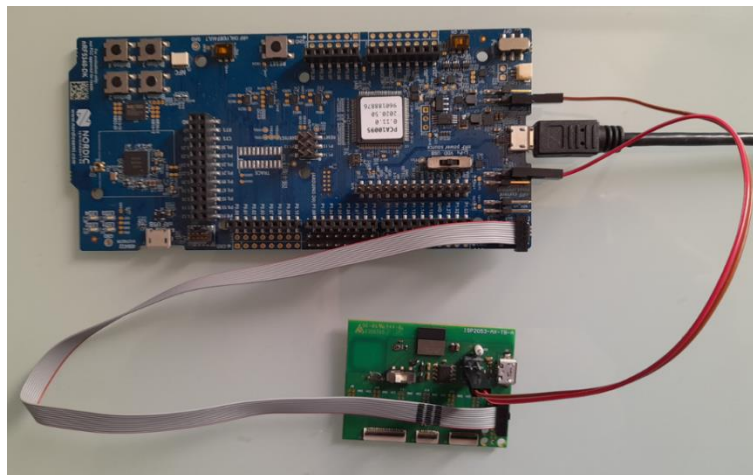
- ✚ Ribbon Cables / IDC Cables .050" Tiger Eye IDC Ribbon Cable Assembly, Socket 10 pin
  - Manufacturer Ref Samtec [FFSD-05-D-05.00-01-N](#)
  - Mouser 200-FFSD05D05.0001N
  - RS 180-0015
- ✚ 2 pin HE10 2.54mm cable Female to Female

### 2.4. Connections

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- ✚ Connect the power supply: with the 2 pin HE10 cable
  - On the PCA10095 side power supply can easily be obtain by connecting the negative wire on P21 (-) and the positive wire on P22.
  - On the ISP2053 Test board Connect the cable on the middle of J6 (G/3V)
- ✚ Set the ISP2053 test board in Normal voltage mode (switch to the left)
- ✚ Connect the 10 pin 1.27mm pitch cable to the “Debug Out” of the PCA10095 and thee “J5” connector of the ISP2053-TB.
- ✚ Connect the micro-USB to the computer for power and download

The following Photos show the connections:



## 3. Programming

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The above setup will detect the presence of a voltage on the Debug Out connector and connect the embedded Jlink JTAG/SWD interface to DEBUG OUT and hence to the ISP module Test Board. The other parts of the Dev Kit are not used.

The ISP test Board can be programmed via the appropriate IDE or JLink software using programs and files supplied by Nordic Semiconductor or developed by the customer.