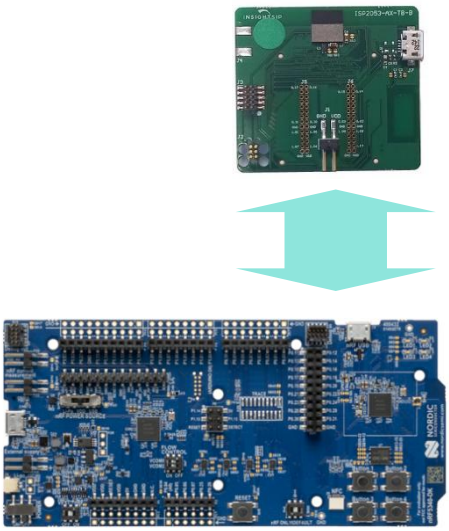
ISP2053

Application note AN220101

ISP2053-AX Test Board Connection to Nordic Dev Kit



Introduction

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).

Contents

1. Recommended Documentation 3

2. Hardware setup 4

2.1. ISP2053-AX-TB 4

2.2. Nordic Semiconductor Development Kit setup 4

2.3. Other Hardware 5

2.4. Connections 5

3. Programming 6

The information contained in this document is the property of Insight SiP and should not be disclosed to any third party without written permission. Specification subject to change without notice.

Document Revision History

Revision	Date	Ref	Change Description
R0	17/02/2022	jf	Initial release
R1	28/06/2022	pd pg	Document update layout
R2	15/05/2025	jf pg	Update test board generation

The information contained in this document is the property of Insight SiP and should not be disclosed to any third party without written permission. Specification subject to change without notice.

1. Recommended Documentation

The following Nordic Semiconductor documents are required to understand the complete setup and programming methods.

Nordic Semiconductor Documents

- nRF5340 Development kit User Guide, hardware section should be partially ignored – Insight SiP development kit hardware replaces Nordic Semiconductor hardware.
- nRF5340 Product Specification– make sure you have the latest document version updated.

To access documentation, go to:

- Official Nordic Semi website *http://www.nordicsemi.com*
- Documentation about nRF Connect SDK https://docs.nordicsemi.com/bundle/ncs-latest/page/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*

Insight SiP documents

The documents are available on Insight SIP website or/and on request:

- AN220101 App Note – this document.
- ISP2053-AX Data Sheets
- ISP2053-AX-TB schematic
- ISP130603 Interface Board schematic.
- Application Notes for Development Boards

The information contained in this document is the property of Insight SiP and should not be disclosed to any third party without written permission. Specification subject to change without notice.

2. Hardware setup

2.1. ISP2053-AX-TB

The ISP2053-AX-TB test board consists of a module mounted on a PCB for prototyping and testing purposes.



Figure 1 : ISP2053-AX Test board

2.2. Nordic Semiconductor Development Kit setup

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

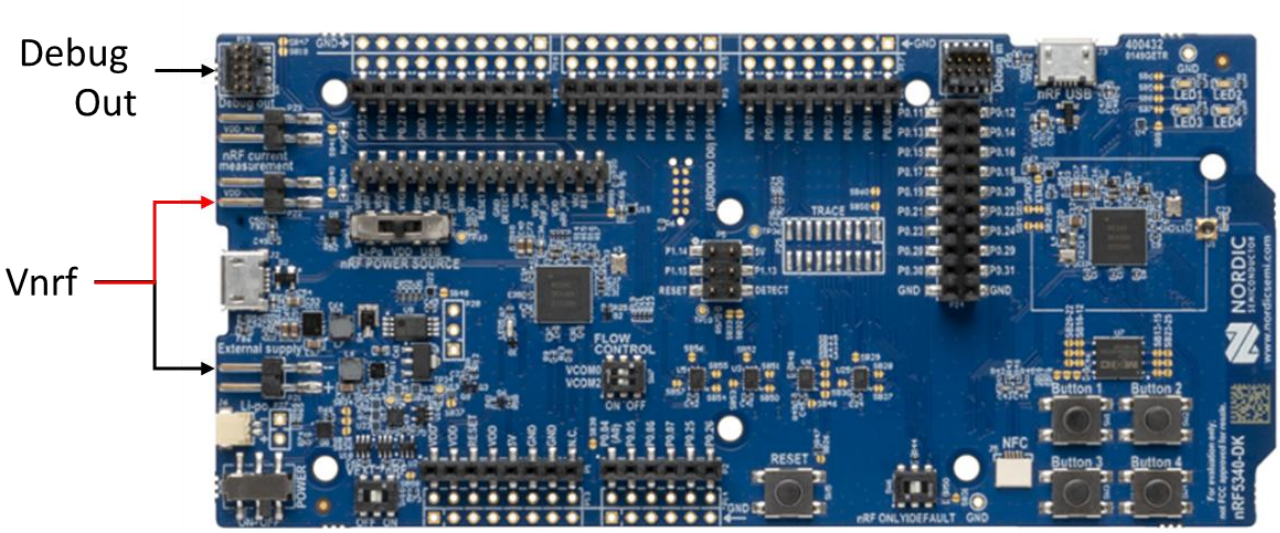


Figure 2: PCA10095

The information contained in this document is the property of Insight SiP and should not be disclosed to any third party without written permission. Specification subject to change without notice.

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

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 J1.

Connect the 10 pin 1.27mm pitch cable to the "Debug Out" of the PCA10095 and the J3 connector of the ISP2053 test board.

Connect the micro-USB to the computer.

The following Photos show the connections:

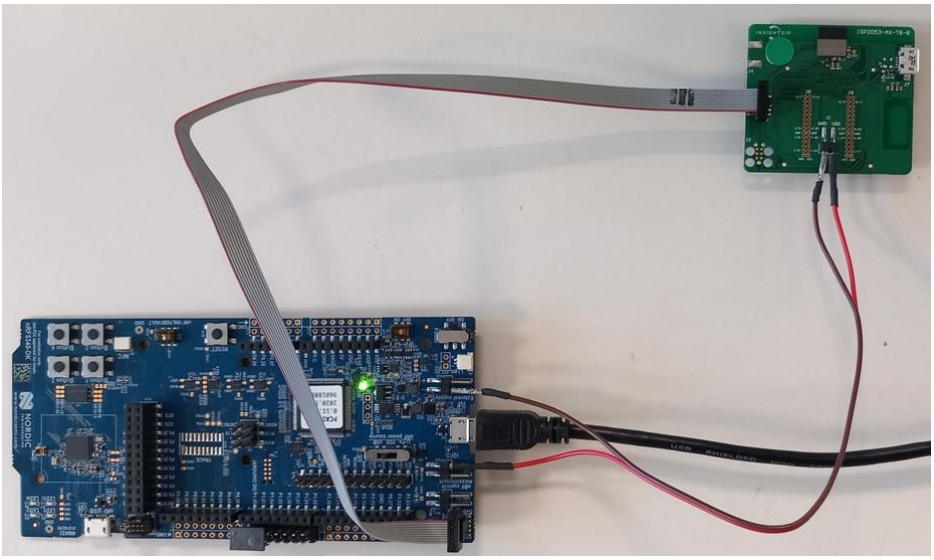


Figure 3: Connections between PCA10095 and ISP2053-AX-TB

The information contained in this document is the property of Insight SiP and should not be disclosed to any third party without written permission. Specification subject to change without notice.

3. Programming

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.

The information contained in this document is the property of Insight SiP and should not be disclosed to any third party without written permission. Specification subject to change without notice.