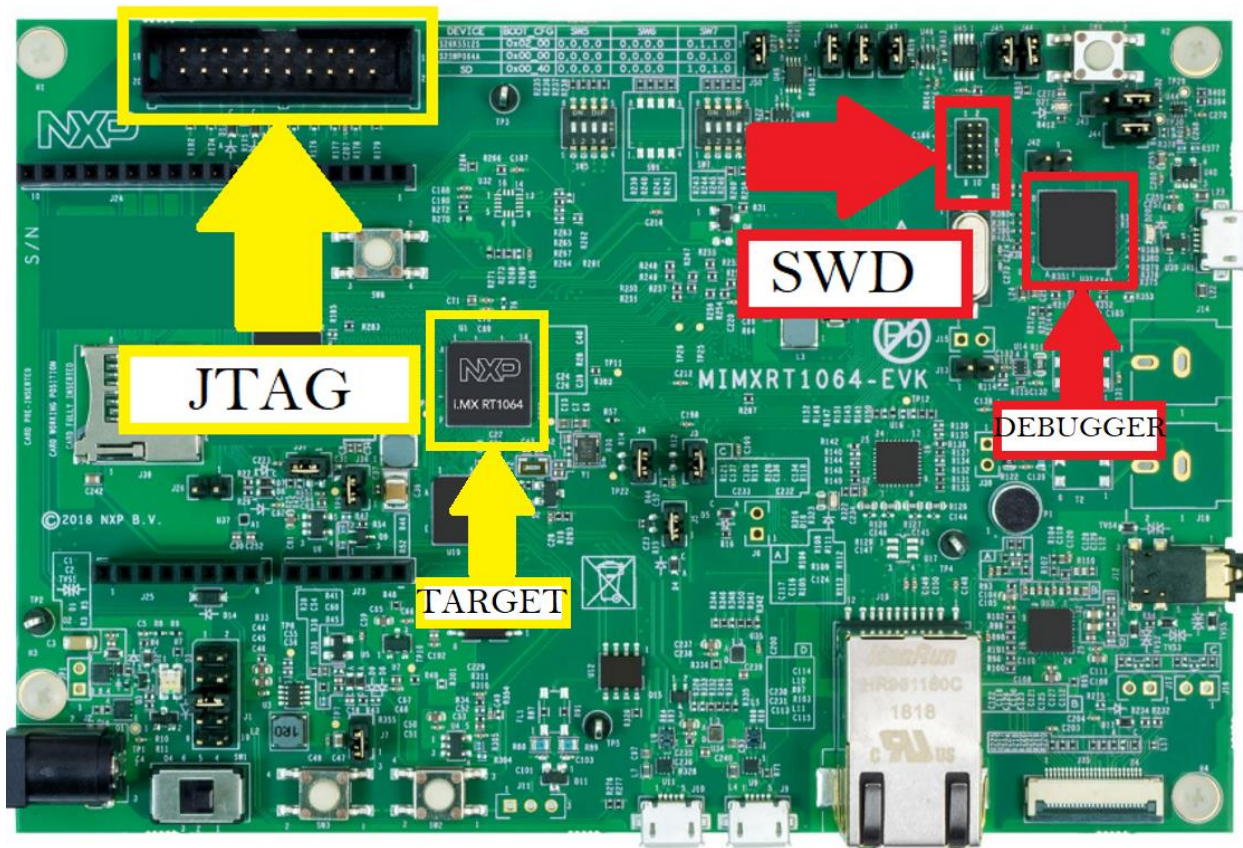


This is a brief documentation to explain the SWD and JTAG on the RT family.

Identification on the board



There is no information to clarify this, and some users misunderstand and use the SWD of the debugger on the board to communicate to the target with an external debugger.

Brief from the Hardware Development Guide.

For RT1050/RT1060 silicon, it defaults to be in SWD mode instead of JTAG.

For the RT1170EVK board, it defaults to use the SWD debug without any board modification.

The SWD communication is the default interface in the EVK, which the user uses to debug the code as normally do, between the PC host and EVK, another scenario is to change the flavor of the debugger firmware. The interface to the debugger updates the firmware Open SDA, but this interface is not used to communicate with the external debugger.

Brief from the Hardware Development Guide.

The IMXRT1050-EVKB /MIMXRT1060-EVK, also features an OpenSDA, which makes it easier to debug without an external debugger. At the same time, next version EVK board will change to LPC4322 based FREELINK which implement the same function as K20 based OpenSDA.

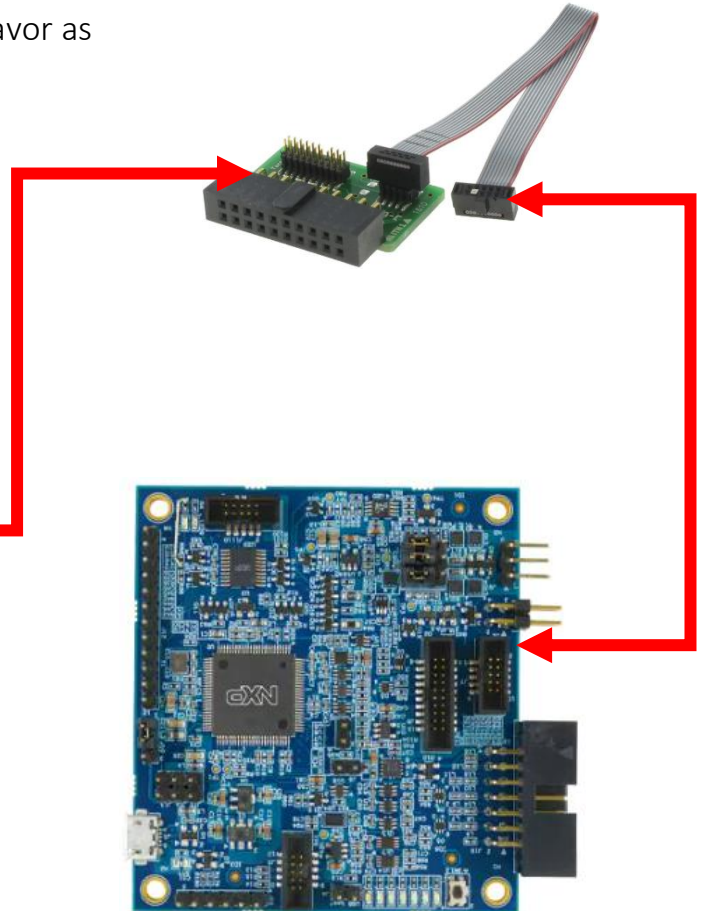
External debugger

The fast way to use an external debugger is using an adapter, to use the JTAG on the board with flavor as SWD.

Brief from the Hardware Development

1. SWD_DIO	Same practice as JTAG_TMS
2. SWD_CLK	Same practice as JTAG_CLK

Guide.



JTAG as JTAG

For the JTAG need to do a rework on the EVK and then burn a fuse, take in mind the process of burning any fuse is irreversible. For more details in Hardware Development Guide has the steps for the rework and the fuse you will need to burn.

In order to enable RT1050EVKB/RT1060EVK JTAG instead of SWD port(by default), please follow below steps:

1. Burn fuse DAP_SJC_SWD_SEL from '0' to '1' to choose JTAG.
2. DNP R323,R309,R152 to isolate JTAG multiplexed signals.
3. Keep off J47 to J50 to isolate board level debugger.

In RT1170 do not need burn any fuse, only do a rework.

If you want to use the JTAG debug, solder out R187, R208, R195, and R78, because some JTAG signals are multiplexed with other functions.

Examples.

