JTAG Interface between 4kOpen B2264 and STMC2 I/O Converter Type A

Technical Note

Contents

1 Introduction

1.1 Purpose and scope

B2264 is the 4kOpen reference board with STMicroelectronics STiH418. The STiH418 contains a JTAG interface. This interface can be used for debug with the help of a STMC2. STMC2 is the original debug tool for STiH418, developed by STMicroelectronics.

The purpose of this document is to describe the HW connections between the 4kOpen board (B2264) and the STMC2. It is focused on the description of the dedicated cable wiring that is required on the JTAG interface.

STMC2 is associated with a JTAG I/O converter for signal adaptation.

This document deals only with I/O converter type A associated with STMC2 and valid for at least B2264 rev C.

1.2 Intended audience

This document is targeted at the following audiences:

- HW and SW developers for STiH418 platform on B2264 with STMC2 debug tool

1.3 Acronyms and abbreviations

HW	Hardware
SBC	Single Board Computer corresponding to the STiH418 Community Board
STMC2	ST Micro Connect 2 host-target interface from STMicroelectronics
SOC	System on chip (STiH418)
SW	Software

1.4 References

Table 1 Reference

#	Document name	Document description
[1]	STiH418 datasheet	Datasheet
[2]	STMC2	ST Micro Connect 2 host-target interface datasheet
[3]	TN0613	Technical note ST system-on-chip (SoC) debug interfaces (I/O converter)

2 STMC2 and I/O converter type A

The STMC2 associated with the I/O converter type A (MB552A) is described below.
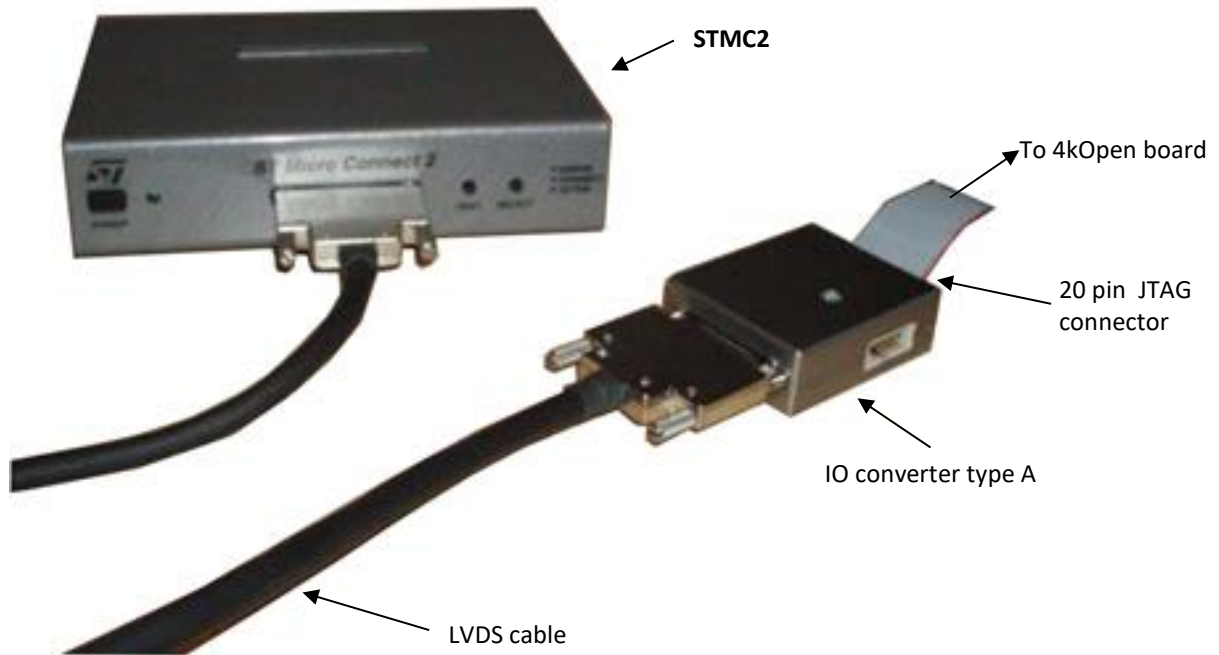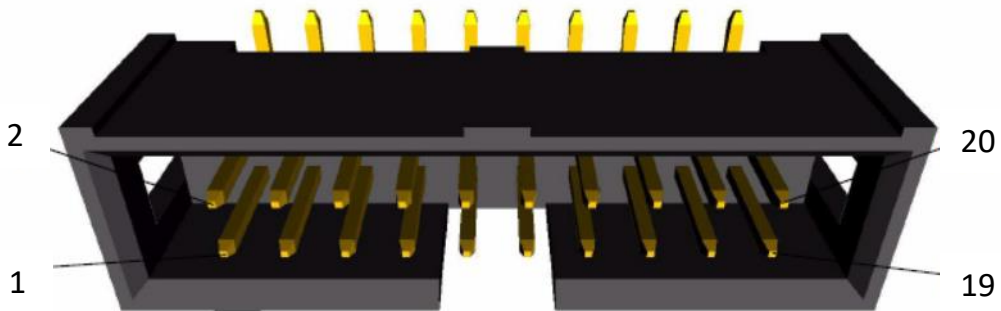

Figure 1 : STMC2 and I/O converter type A

Figure 2 : I/O converter type A JTAG connector

Pin	Signal Name	Signal direction
1	Reserved	Not applicable
3	TRIGOUT	From SoC
5	TRIGIN	To SoC
	notASEBRK	Bi-directional
9	TMS	To SOC
11	TCK	To SOC
13	TDI	To SOC
15	TDO	From SOC
17	notSYSRESET	To reset the SoC
19	notTRST	To reset the JTAG SoC

Pin	Signal Name
Even pins 2 , 4 … 20	Ground

Signals not used by the STiH418. Keep not connected

Table 2 : I/O converter type A JTAG connector pinout

3 B2264 JTAG Connector

The mapping of the JTAG connector on B2264 is based on 20 pin connector as depicted below. It is different from I/O converter type A.
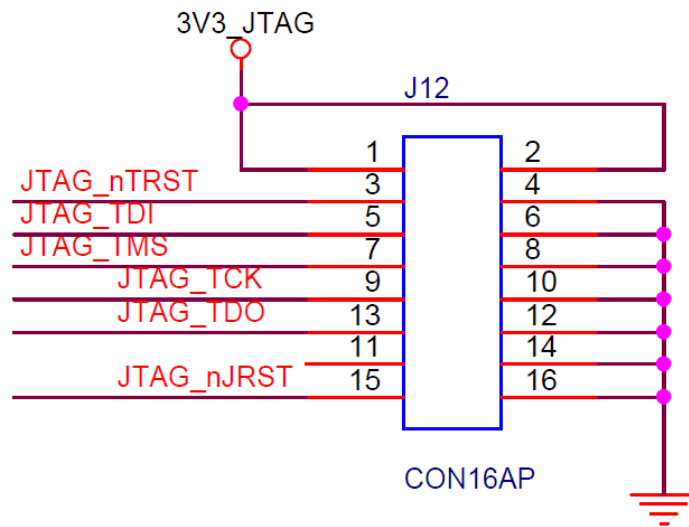

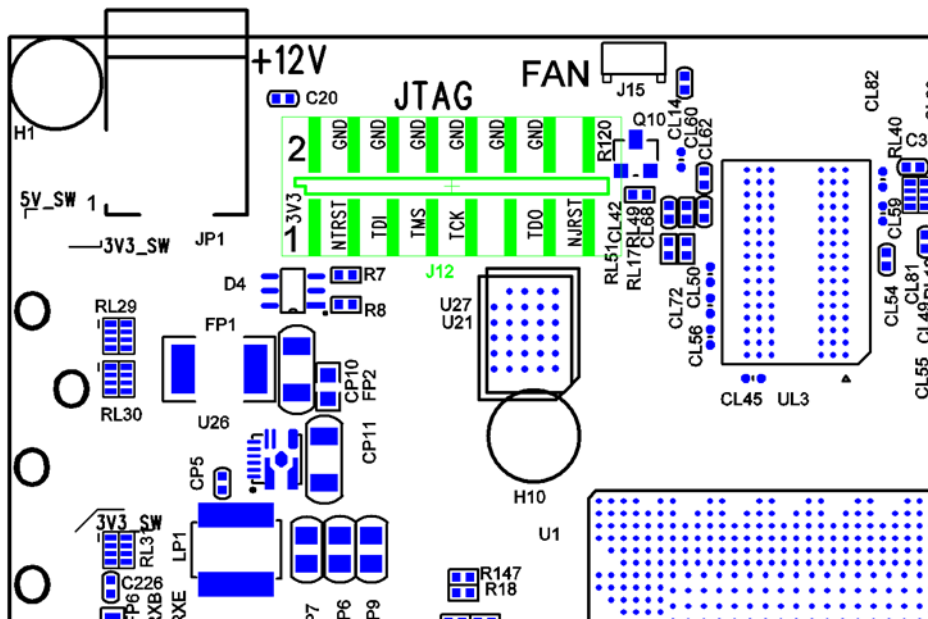**Figure 3 : B2264 JTAG connector pinout**

Figure 4 : B2264 JTAG connector (J12) placement

4 B2264 JTAG Connection with STMC2

The JTAG connections between the 4kOpen B2264 board and the I/O converter type A is represented below.
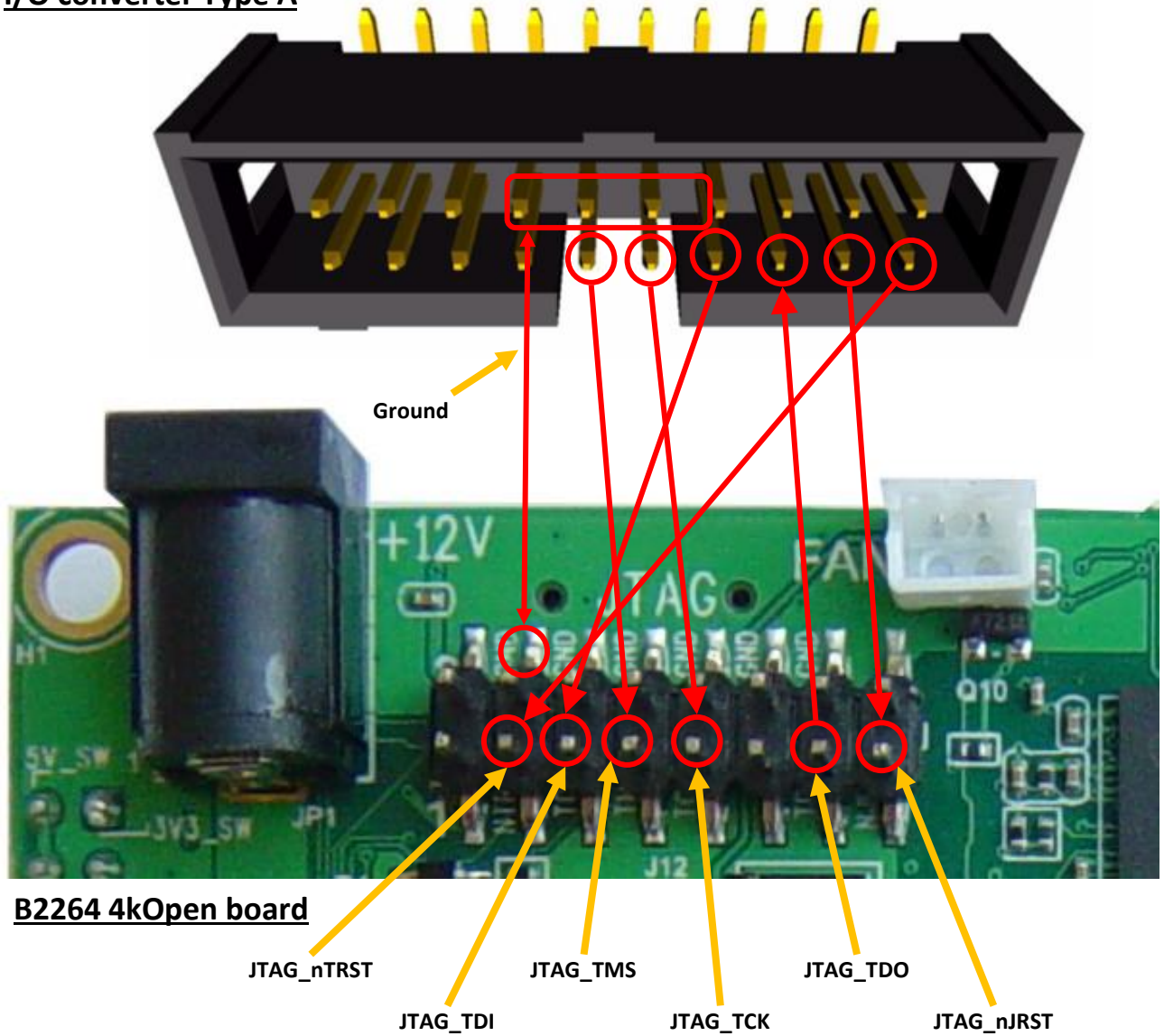
I/O converter Type A

B2264 4kOpen board

JTAG_nTRST   JTAG_TMS   JTAG_TDO

JTAG_TDI   JTAG_TCK   JTAG_nJRST

Figure 5 : JTAG wiring between 4kOpen and I/O converter type A

5 Example Connections

Below is an example connection made between the I/O converter type A and 4kOpen board.

Figure 6 : Example of wiring with flat cable

It is also possible to make this connection with jumper cables, for example the Pomona 4741-6-0 pin-to-pin patch cord.

Figure 7 : Example of single wire (reference POMONA 4741-6)

6 Revision History

Revision history:

Date	Revision	Changes
2nd August 2017	Draft 0.1	Draft initial version
4th May 2018	Draft 0.2	Update for B2264B
6th November 2018	Release 1.0	Revised branding