



STEVAL-PCC009V2

IBU universal interface based on the STM32x

Data brief

Features

- Supports two modes:
 - application mode: the PC GUI allows SPI, I²C and UART interfacing and control of the communication parameters
 - DFU mode: allows the user to change the firmware if required to suit specific applications
- Board power supplied through a USB Mini B-type connector
- DLL files provided to allow users to create a customized PC GUI
- RoHS compliant

Description

The STEVAL-PCC009V2 board implements an IBU universal interface (IBUUI), which is an STM32x-based USB-to-serial interface bridge consisting of a configurable 10-pin interface and a 30-pin interface.

The STM32x microcontroller is used as an interface between the PC and another end system. Various communication peripherals are multiplexed with GPIOs, ADC and PWM channels in both the 10-pin and 30-pin interfaces.

With these interfaces, there is a provision to connect a device which can communicate using I²C, SPI and UART. Thus, the IBUUI tool allows users to connect a serial communication-based device to a PC. At the same time, it allows user control of some GPIOs available in 10-pin and 30-pin interfaces, and sets them to input/output mode as per application requirements.



STEVAL-PCC009V2

1 Schematic diagram

Figure 1. Microcontroller section

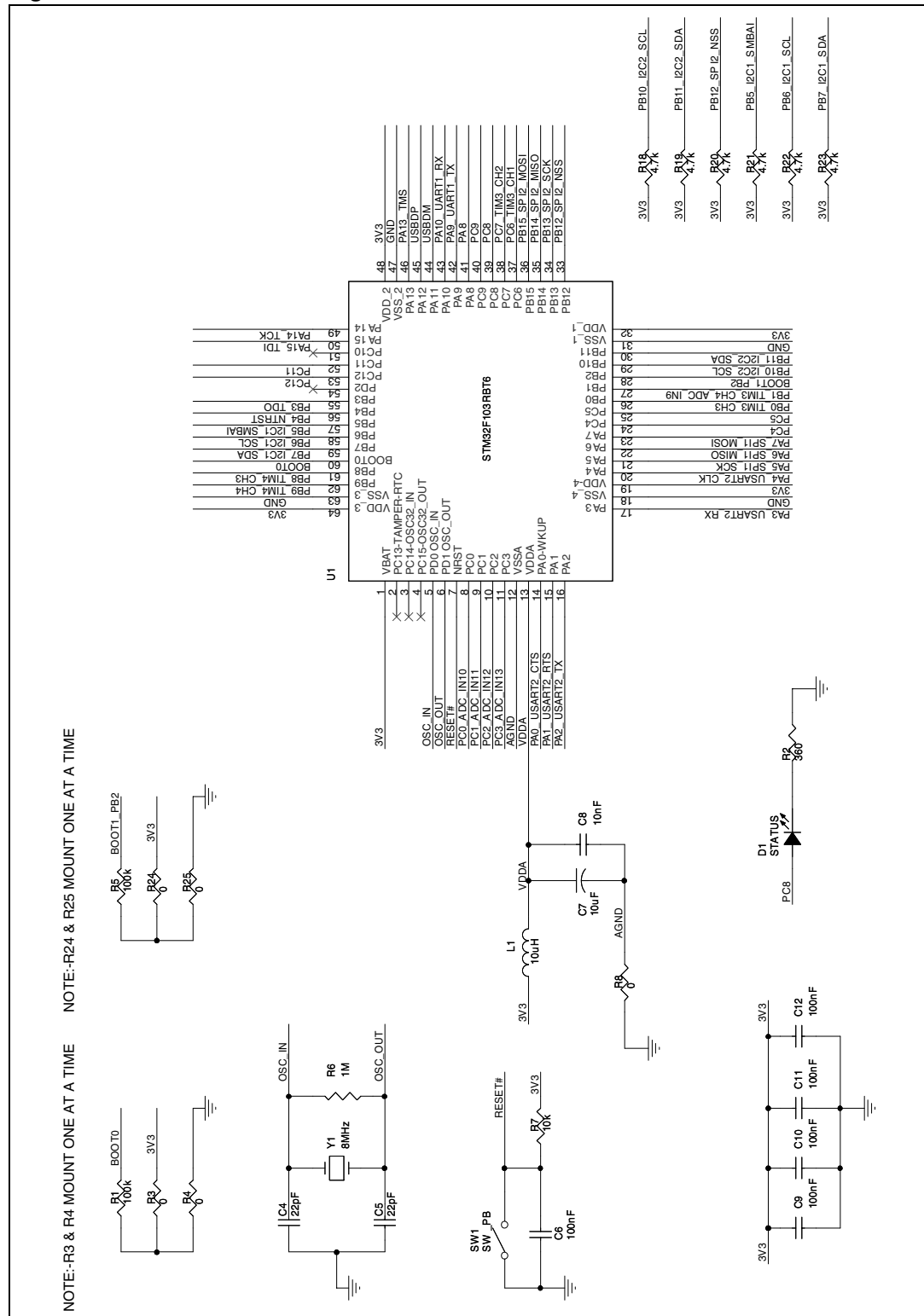


Figure 2. 30 pin COM interface

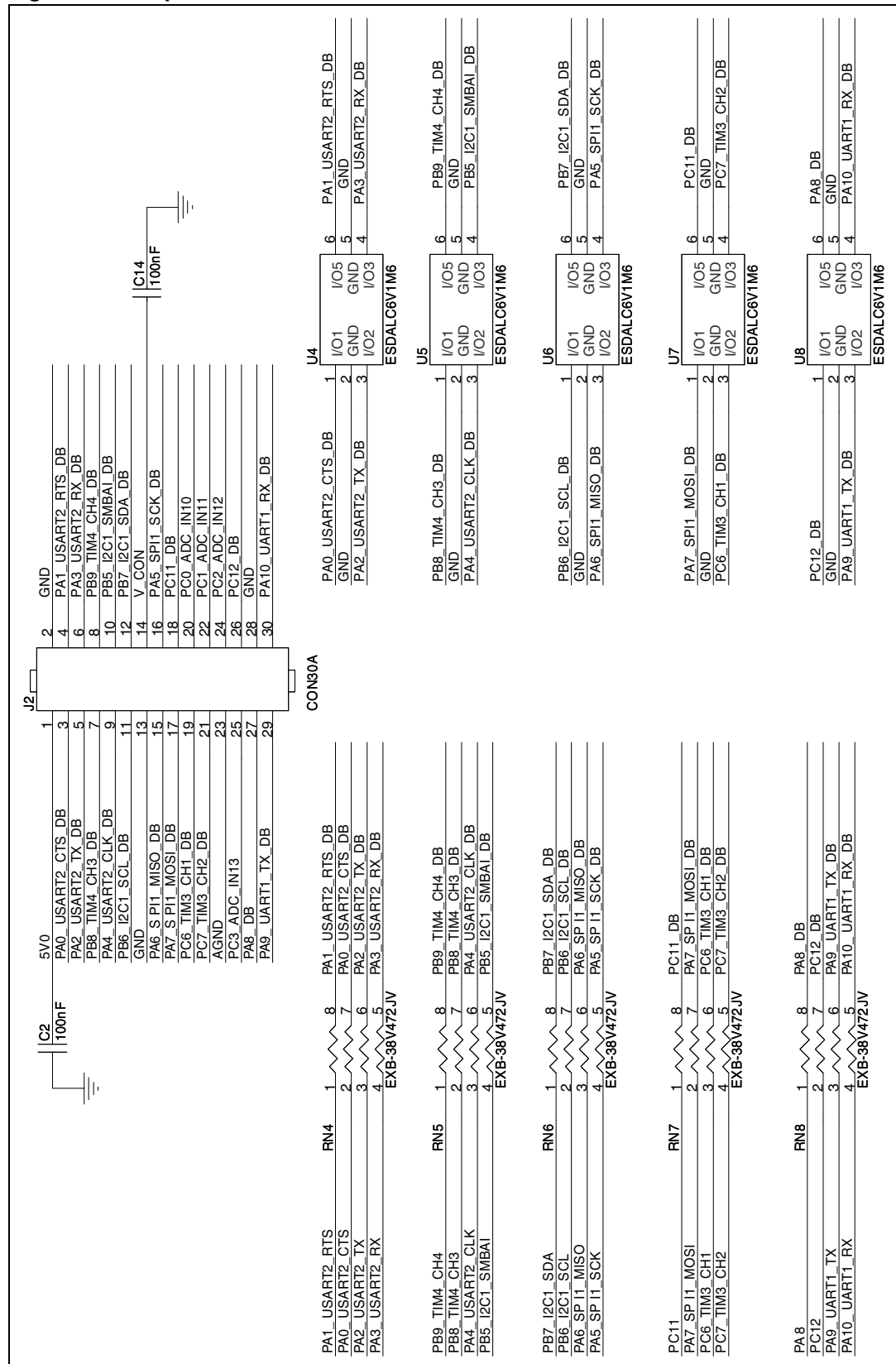
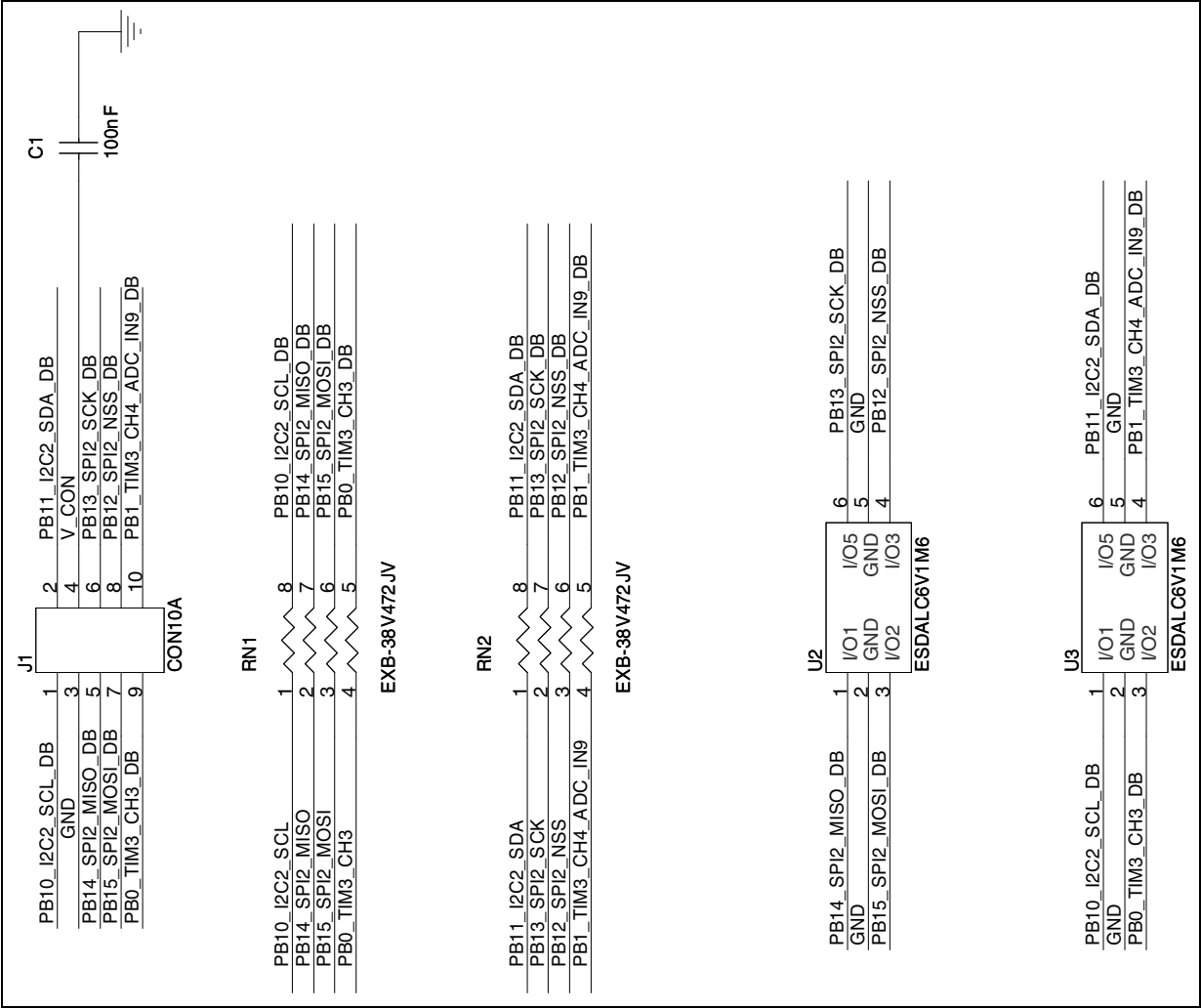


Figure 3. 10 pin COM interface



The schematic diagram illustrates the JTAG interface and power supply sections of the EXB38V472 JV board.

JTAG INTERFACE: A JTAG_20PIN connector (J3) is connected to the board's JTAG pins. The connections are as follows:

- Pin 1: 3V3
- Pin 2: PB4_NTRST
- Pin 3: PA15_TDI
- Pin 4: PA13_TMS
- Pin 5: PA14_TCK
- Pin 6: PB3_TDO
- Pin 7: RESET#
- Pin 8: R10 (10k)
- Pin 9: R11 (10k)
- Pin 10: R12 (10k)
- Pin 11: R13 (10k)
- Pin 12: R14 (10k)
- Pin 13: R15 (10k)
- Pin 14: R16 (10k)
- Pin 15: R17 (10k)
- Pin 16: R18 (10k)
- Pin 17: R19 (10k)
- Pin 18: R20 (10k)
- Pin 19: R21 (10k)
- Pin 20: R22 (10k)

POWER SUPPLY: The power supply section includes a USB_MINIB connector (J4) and a USB_C6-2P6 connector (U10). The connections are as follows:

- Pin 1: 3V3
- Pin 2: 5V0
- Pin 3: 3V3
- Pin 4: 5V0
- Pin 5: 3V3
- Pin 6: 5V0
- Pin 7: 3V3
- Pin 8: 5V0
- Pin 9: 3V3
- Pin 10: 5V0
- Pin 11: 3V3
- Pin 12: 5V0
- Pin 13: 3V3
- Pin 14: 5V0
- Pin 15: 3V3
- Pin 16: 5V0
- Pin 17: 3V3
- Pin 18: 5V0
- Pin 19: 3V3
- Pin 20: 5V0

MODE SELECTION SWITCH: A MODE SELECTION SWITCH (SW3) is connected to the board's MODE pins. The connections are as follows:

- Pin 1: 3V3
- Pin 2: 5V0
- Pin 3: 3V3
- Pin 4: 5V0
- Pin 5: 3V3
- Pin 6: 5V0
- Pin 7: 3V3
- Pin 8: 5V0
- Pin 9: 3V3
- Pin 10: 5V0
- Pin 11: 3V3
- Pin 12: 5V0
- Pin 13: 3V3
- Pin 14: 5V0
- Pin 15: 3V3
- Pin 16: 5V0
- Pin 17: 3V3
- Pin 18: 5V0
- Pin 19: 3V3
- Pin 20: 5V0

POWER SUPPLY: The power supply section includes a POWER SUPPLY (U9) and a POWER SUPPLY (U10). The connections are as follows:

- Pin 1: 3V3
- Pin 2: 5V0
- Pin 3: 3V3
- Pin 4: 5V0
- Pin 5: 3V3
- Pin 6: 5V0
- Pin 7: 3V3
- Pin 8: 5V0
- Pin 9: 3V3
- Pin 10: 5V0
- Pin 11: 3V3
- Pin 12: 5V0
- Pin 13: 3V3
- Pin 14: 5V0
- Pin 15: 3V3
- Pin 16: 5V0
- Pin 17: 3V3
- Pin 18: 5V0
- Pin 19: 3V3
- Pin 20: 5V0

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
28-Jun-2010	1	Initial release.

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