

Hardware description PTX105R-EB-ST-QFN56-POS/ IoT

Panthronics AG

Exported on 05/15/2023



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Old Nomenclature: PTX105R EB v1.0

1 Power supply:

The board is powered via a USB-C connection.

The PTX105R can be operated in two voltage settings VBUS (5V) & VDCDC (5.4V) which can be selected by moving the jumper from JMP_VBUS to JMP_DCDC



The boards default is VBUS which is also the setting all compliance tests were done in.

Current consumption in continuous field mode is ~360mA with VBUS and ~450mA with VDCDC



2 USB Interface:

The Usb Interface is handled by a CH340E USB<->UART bridge.

Drivers can be downloaded from the manufacturer homepage: [here](#)

3 Interface switching:

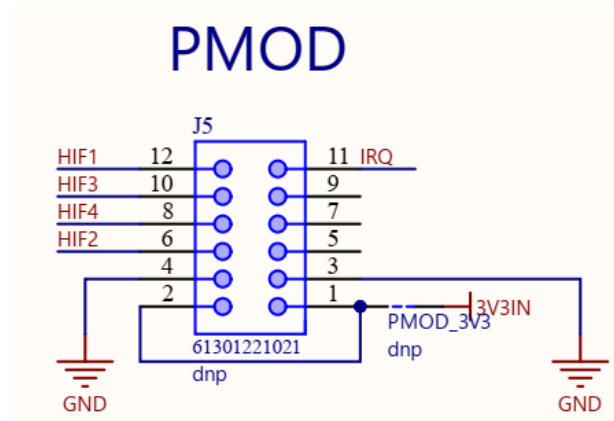
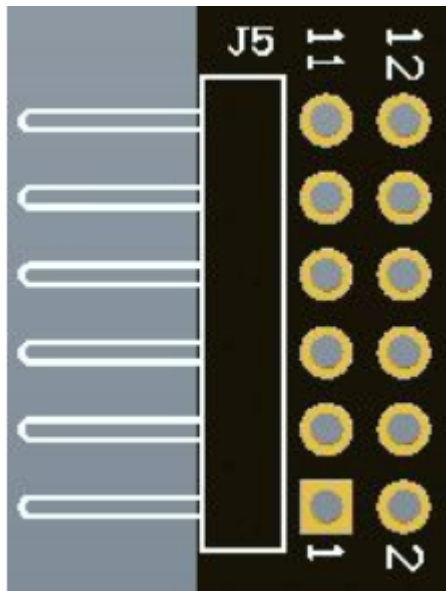
The eval board allows to switch between the 3 Interface supported by the PTX105R IC using the SIF1 / SIF2 jumpers:

SIF1	SIF2	Interface	Picture of jumpersto be used:
0	0	SPI	
0	1	UART → USB	
1	0	I2C	

The UART Interface is connected to the USB bridge and can be accessed via the USB-C plug

4 PMOD:

All interfaces are also available via a [PMOD](#) 2x6pin connector (shich has to be soldered manually). The pinout follows the PMOD recommendation for SPI Interface. The [PMOD](#) connector allows connecting to a multitude of mcu demo boards. Example firmware is available for the [TB-S3A1](#) board from renesas



The 3.3V supply for the host mcu can also be provided by the Demo Board if Jumper PMOD_3V3 is placed



5 Clocking:

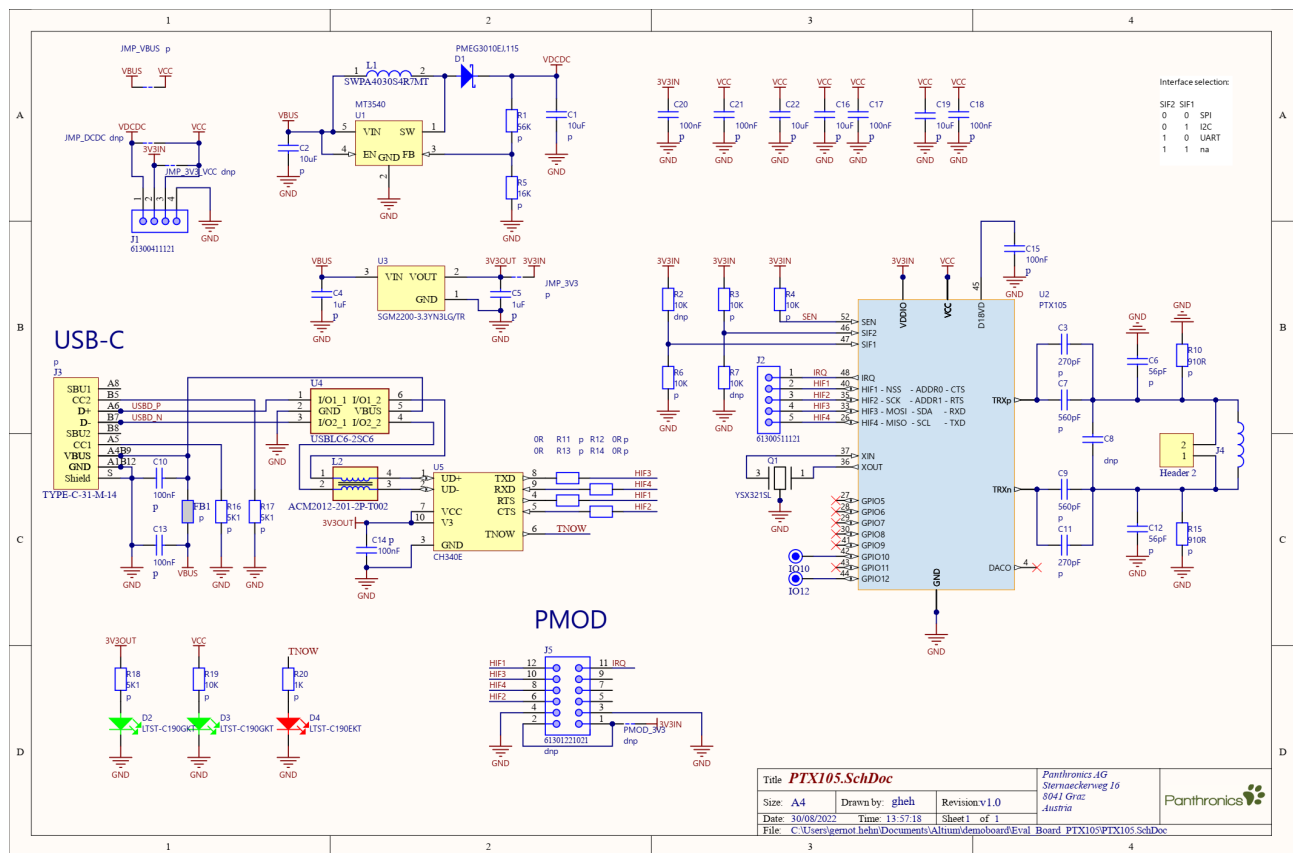
The PTX105R chips default clock source is a 27.12MHz crystal (Q1).

6 Debugging:

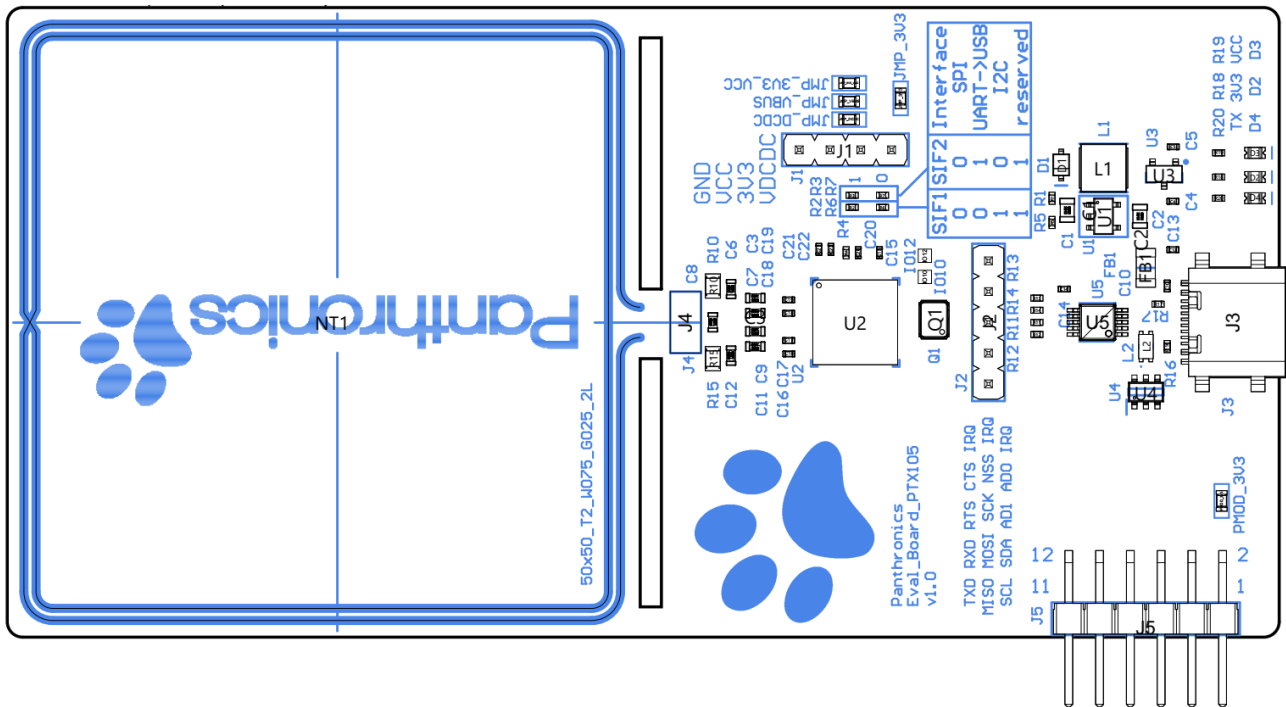
The PCB has 3 debug LEDs

2 for supply and 1 for UART communication:



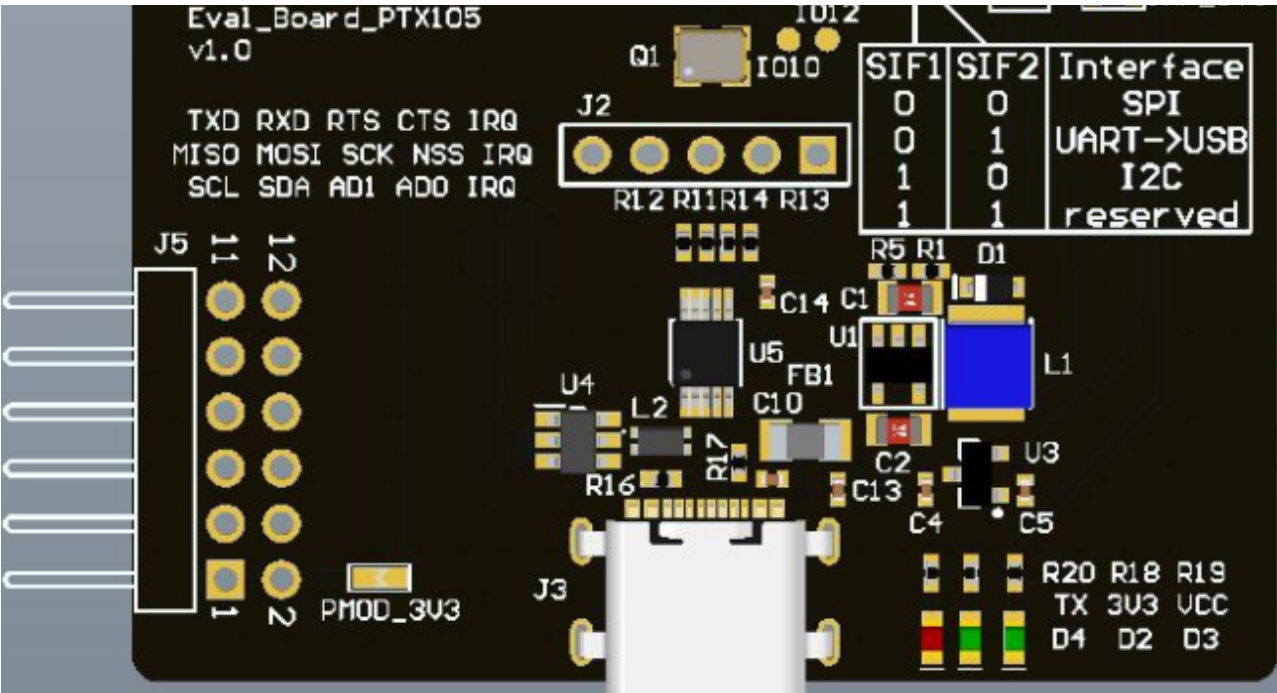


8 Assembly:



9 PCB:







10 PDF:

[Eval_Board_PTX105_v1.0.PDF](#)

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