

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

Panthronics AG

Exported on 05/15/2023



Table of Contents

1	Power supply:.....	4
2	USB Interface:.....	5
3	Interface switching:.....	6
4	PMOD:	7
5	Clocking:	8
6	Debugging:	9
7	Schematic:.....	10
8	Assembly:.....	11
9	PCB:.....	12
10	PDF:.....	14

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



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 continous 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	<table border="1" style="margin-top: 10px;"> <thead> <tr> <th>SIF1</th> <th>SIF2</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>SPI</td> </tr> <tr> <td>0</td> <td>1</td> <td>UART→USB</td> </tr> <tr> <td>1</td> <td>0</td> <td>I2C</td> </tr> <tr> <td>1</td> <td>1</td> <td>reserved</td> </tr> </tbody> </table>	SIF1	SIF2	Interface	0	0	SPI	0	1	UART→USB	1	0	I2C	1	1	reserved
SIF1	SIF2	Interface																
0	0	SPI																
0	1	UART→USB																
1	0	I2C																
1	1	reserved																
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



5 Clocking:

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

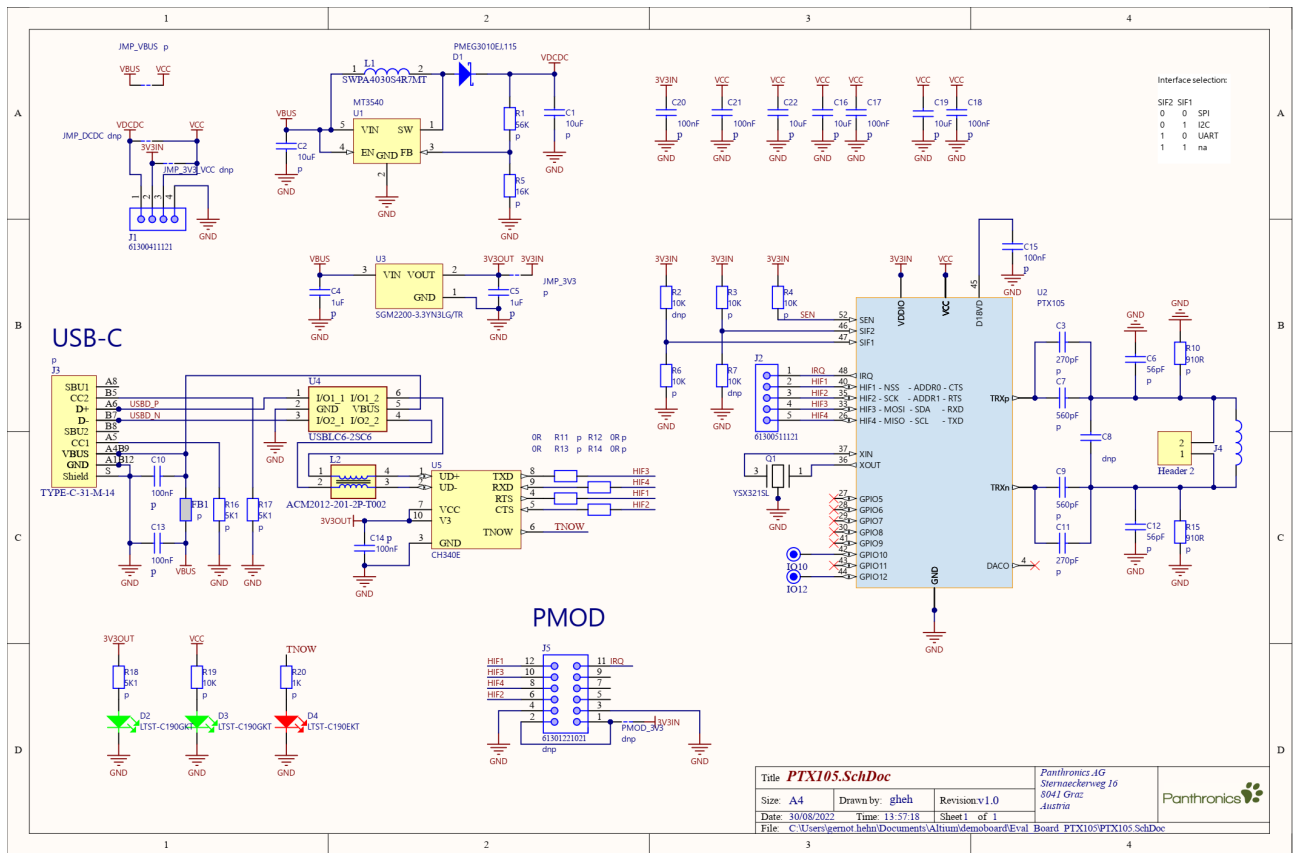
6 Debugging:

The PCB has 3 debug LEDs

2 for supply and 1 for UART communication:



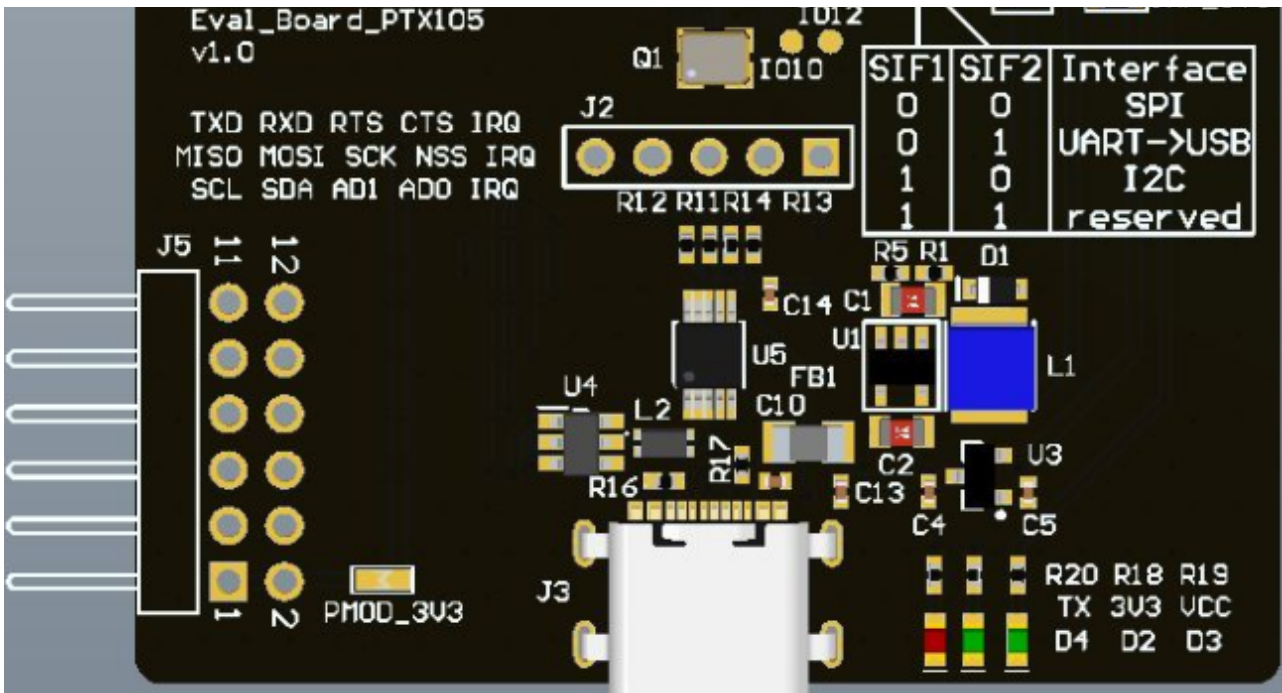
7 Schematic:



Title PTX105.SchDoc		Panthronics AG Stiernaeckerweg 16 8041 Graz Austria		Panthronics
Size A4	Drawn by: gheh	Revision v1.0		
Date 30/08/2022	Time 13:57:18	Sheet 1 of 1		
File C:\Users\germot\helm\Documents\Altium\demoboard\Eval Board PTX105\PTX105.SchDoc				

9 PCB:







10 PDF:

[Eval_Board_PTX105_v1.0.PDF](#)

The material herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner. Devices sold by Panthronics AG are covered by the warranty and patent indemnification provisions appearing in its General Terms of Trade. Panthronics AG makes no warranty, express, statutory, implied, or by description regarding the information set forth herein. Panthronics AG reserves the right to change specifications and prices at any time and without notice. Therefore, prior to designing this product into a system, it is necessary to check with Panthronics AG for the most up to date information. Applications requiring extended temperature range, unusual environmental requirements, or high reliability applications, such as military, medical life-support or life-sustaining equipment are not recommended. This product is provided by Panthronics AG “AS IS” and any express or implied warranties, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose are disclaimed. Panthronics AG shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data herein.

Legal Notice - Purchase of Panthronics ICs with MIFARE Classic® compatibility:

PTX100R IC offers modes to be compatible with MIFARE Classic® RFID tags, allowing to build MIFARE Classic® compatible reader systems. MIFARE® and MIFARE Classic® are trademarks of NXP B.V., High Tech Campus 60 NL-5656 AG EINDHOVEN, NL. Purchase of Panthronics' MIFARE Classic® compatible products does not provide a license of any NXP rights, in particular does not provide the right to use MIFARE® or MIFARE Classic® as a trademark to brand such systems.

Copyright Panthronics AG, Sternäckerweg 16, 8041, Graz

Ordering and Contact Information



Headquarters

Pantronics AG
Sternaeckerweg 16
A-8041, GRAZ
AUSTRIA

office@pantronics.com

Phone: +43 316 269 259

www.pantronics.com