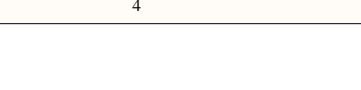
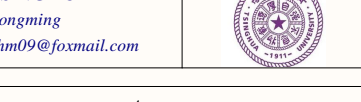
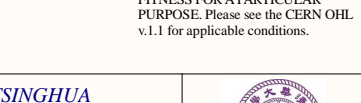
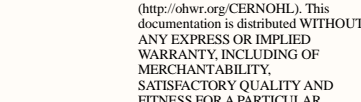
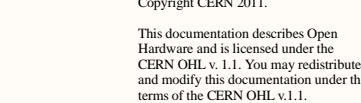
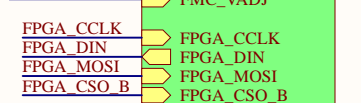
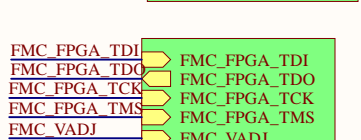
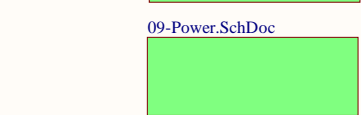
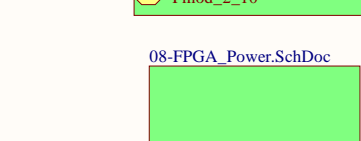
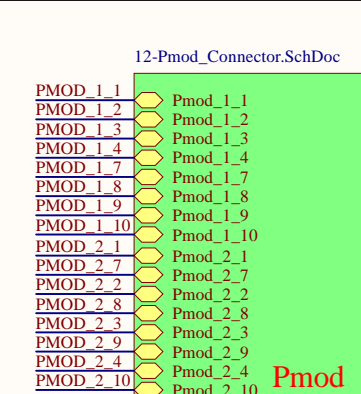
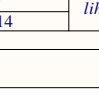
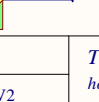
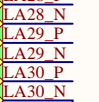
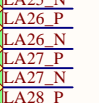
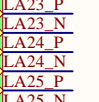
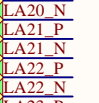
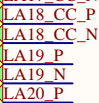
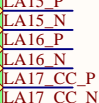
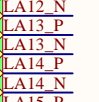
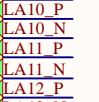
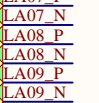
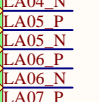
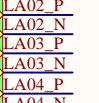
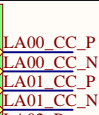
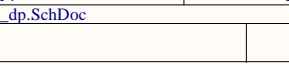
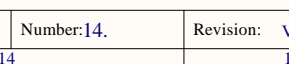
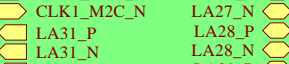
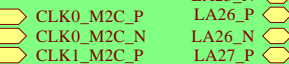
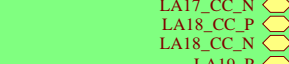
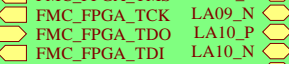
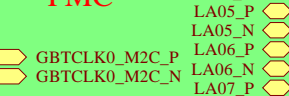
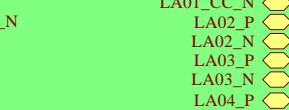
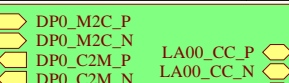
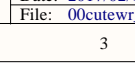
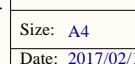
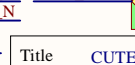
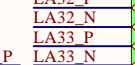
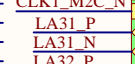
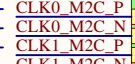
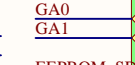
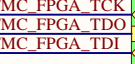
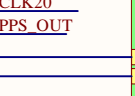
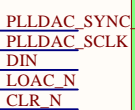
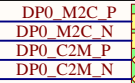
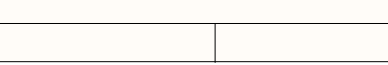
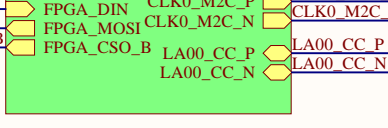
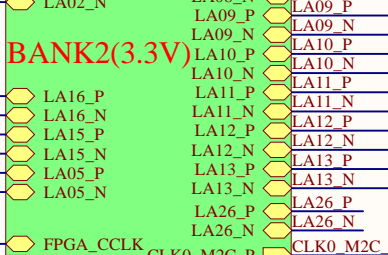
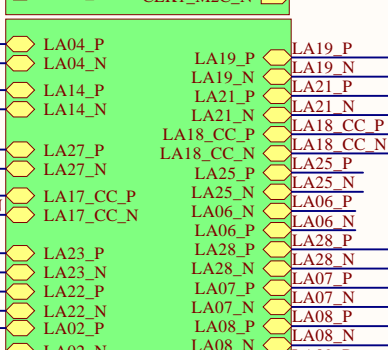
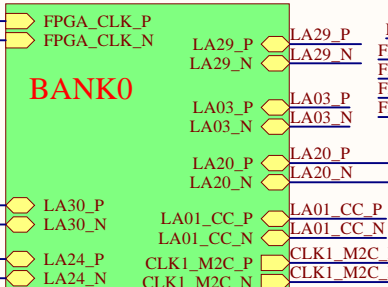
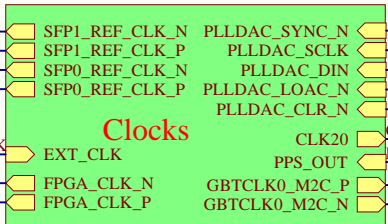
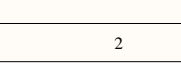
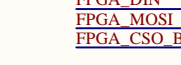
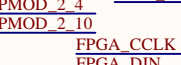
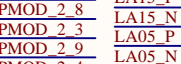
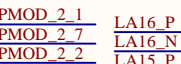
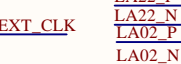
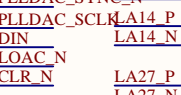
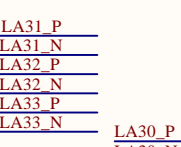
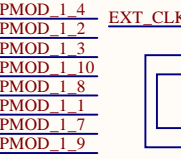
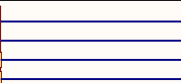


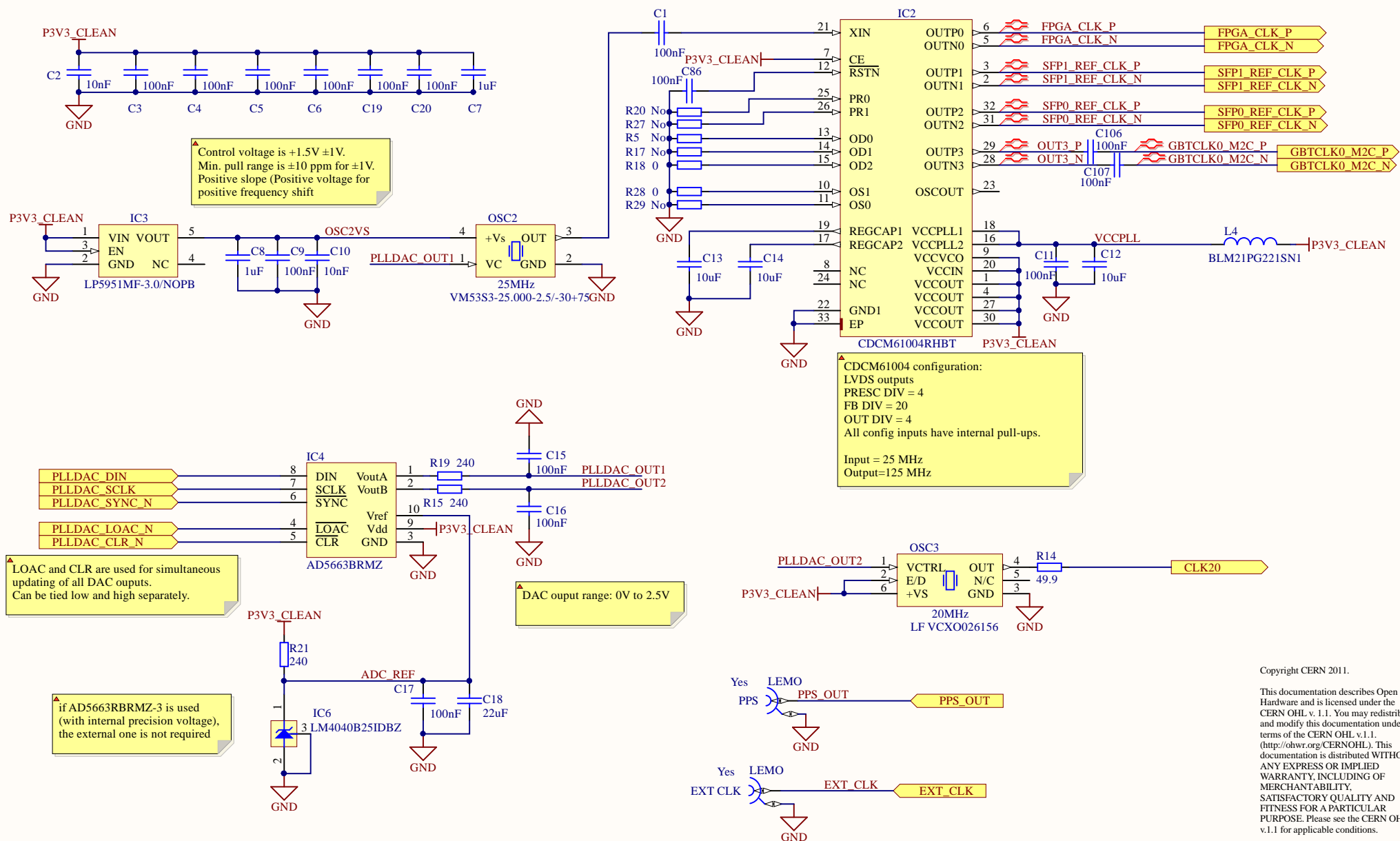
Watch out:
As the LVDS in BANK3 only supports input.
The LA31/LA32/LA33 only supports input!



Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v.1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP			TSINGHUA	
Size: A4	Number: 14.	Revision: V2	hongming	
Date: 2017/02/14		14	lihm09@foxmail.com	
File: 00cutewr_dp.SchDoc				



Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v.1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP			TSINGHUA	
Size: A4	Number: 1.	Revision: V2	hongming	
Date: 2017/02/14		14	lihm09@foxmail.com	
File: 01-Clocks.SchDoc				

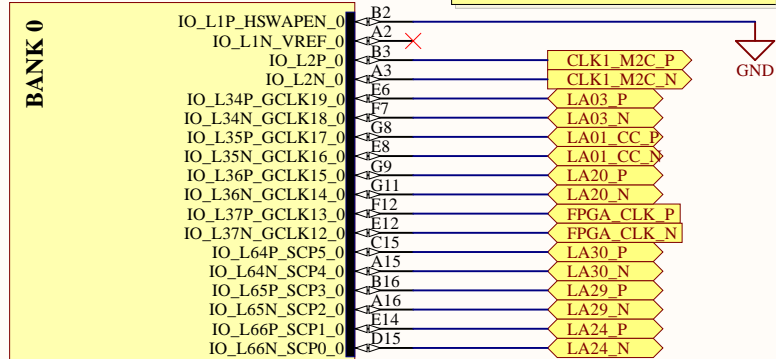


▲ Bank 0 Supports differential output

VCCO_0 = 3.3V

U1A


▲ FPGA IO pulled-up during configuration



XC6SLX45T-3CSG324C

Copyright CERN 2011.

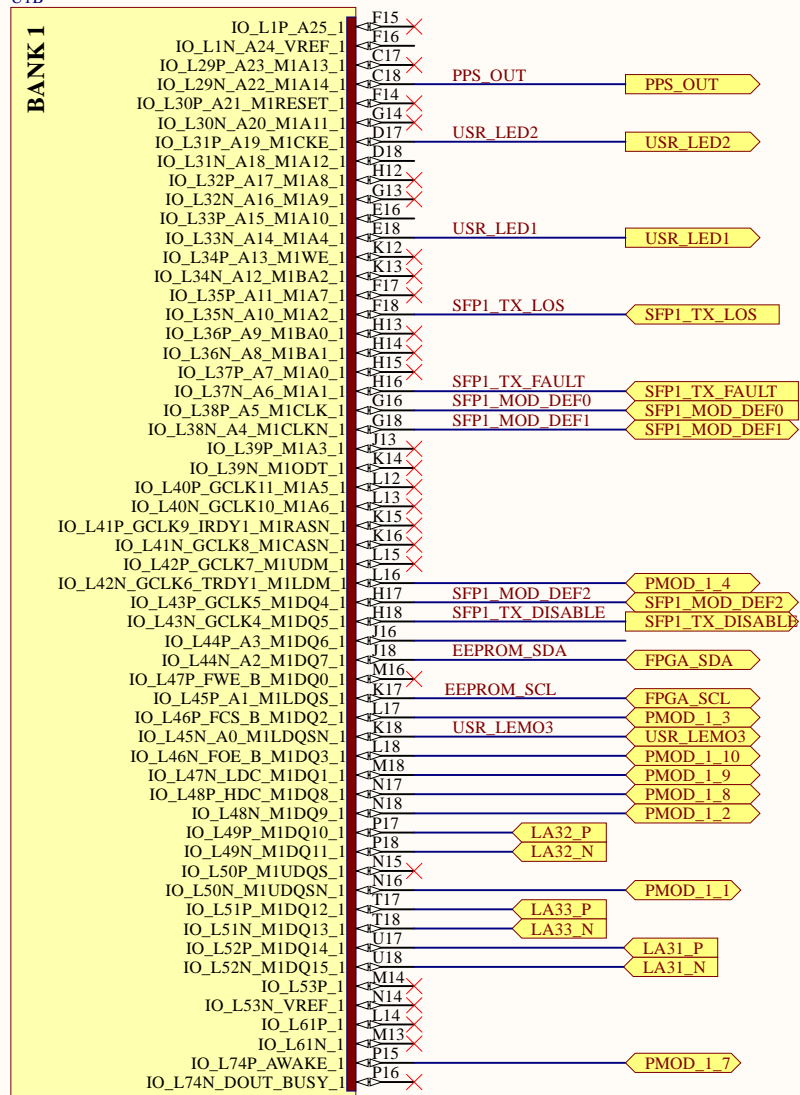
This documentation describes Open Hardware and is licensed under the CERN OHL v. 1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP			TSINGHUA hongming lihm09@foxmail.com	
Size: A4	Number:2.	Revision: V2		
Date: 2017/02/14		14		
File: 02-FPGA_bank0.SchDoc				

▲ Bank 1 DOESNT Supports differential output

VCCO_1 = 3.3V


U1B



XC6SLX45T-3CSG324C

Copyright CERN 2011.

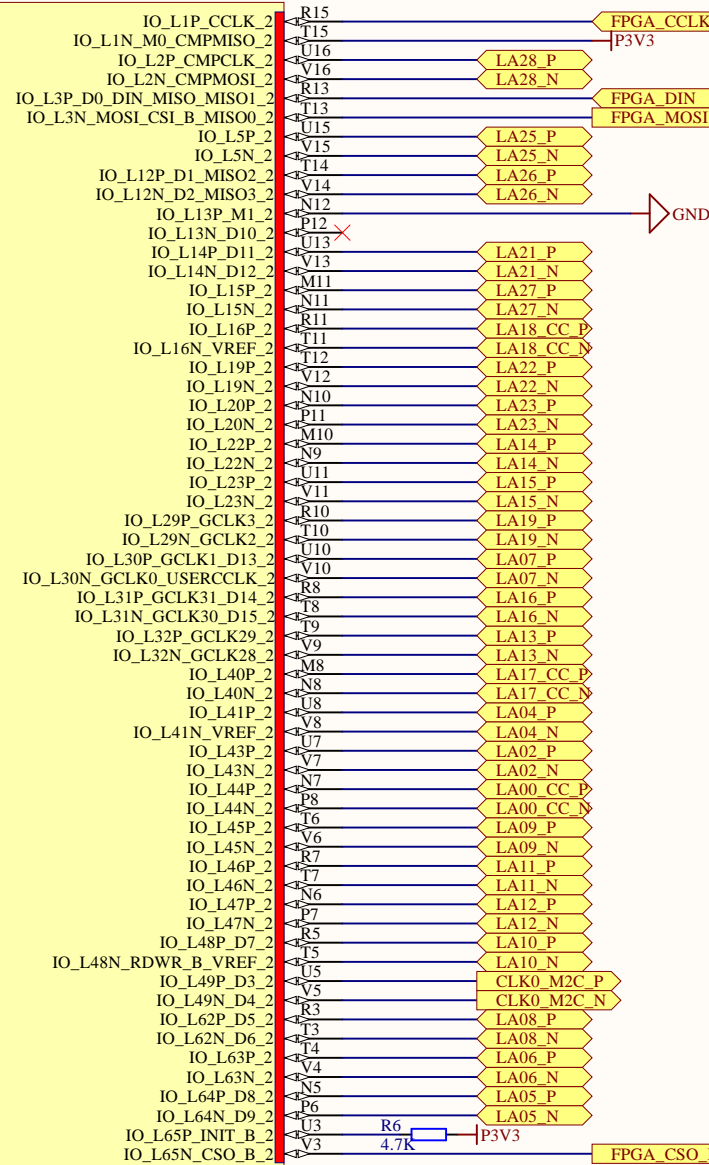
This documentation describes Open Hardware and is licensed under the CERN OHL v.1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP			TSINGHUA hongming lihm09@foxmail.com	
Size: A4	Number:3,	Revision: V2		
Date: 2017/02/14		14		
File: 03-FPGA_bank1.SchDoc				

VCCO_2 = 3.3V

U1C


BANK 2



XC6SLX45T-3CSG324C

Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v.1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

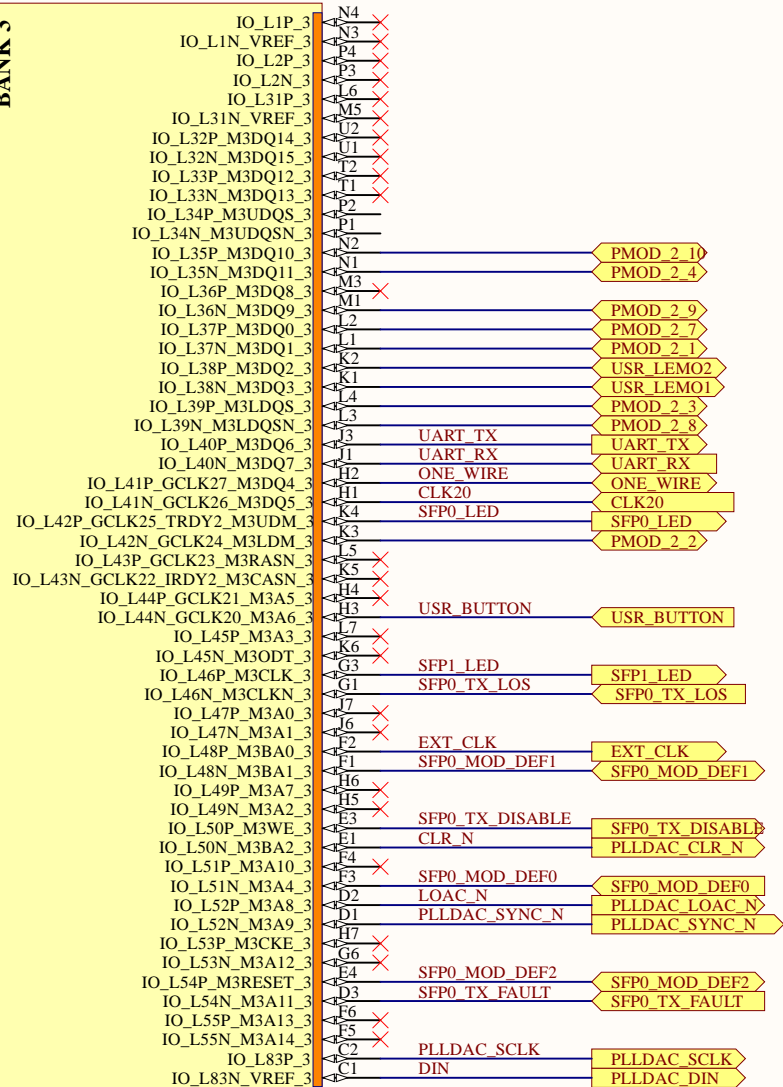
Title CUTEWR-DP			TSINGHUA hongming lihm09@foxmail.com	
Size: A4	Number:4.	Revision: V2		
Date: 2017/02/14		14		
File: 04-FPGA_bank2.SchDoc				

Bank 3 DOESN'T Supports differential output

VCCO_3 = 3.3V

UID


BANK 3

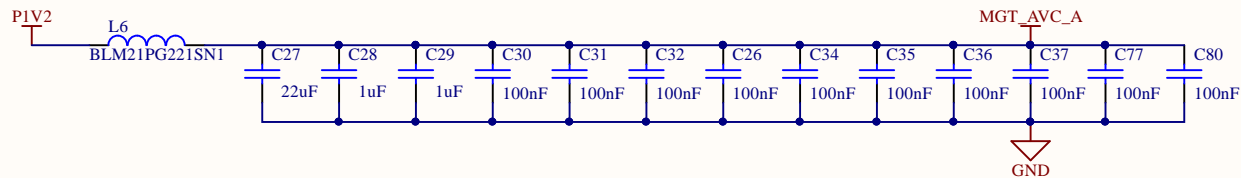
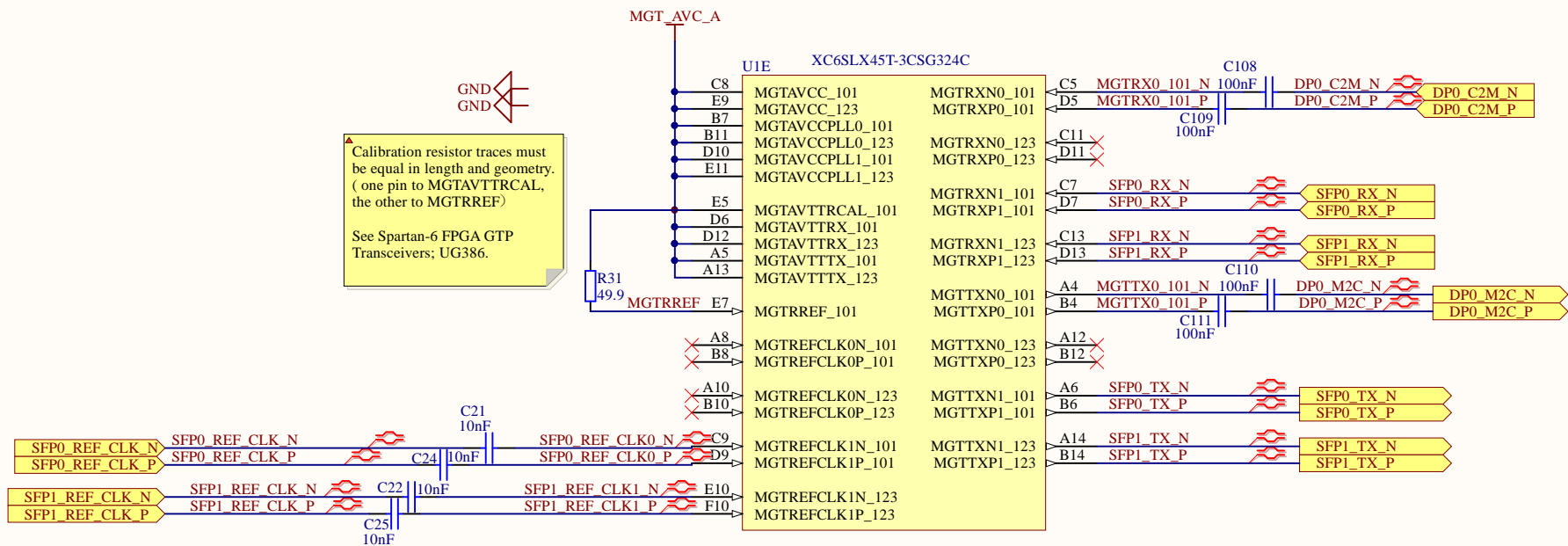



XC6SLX45T-3CSG324C

Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v. 1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

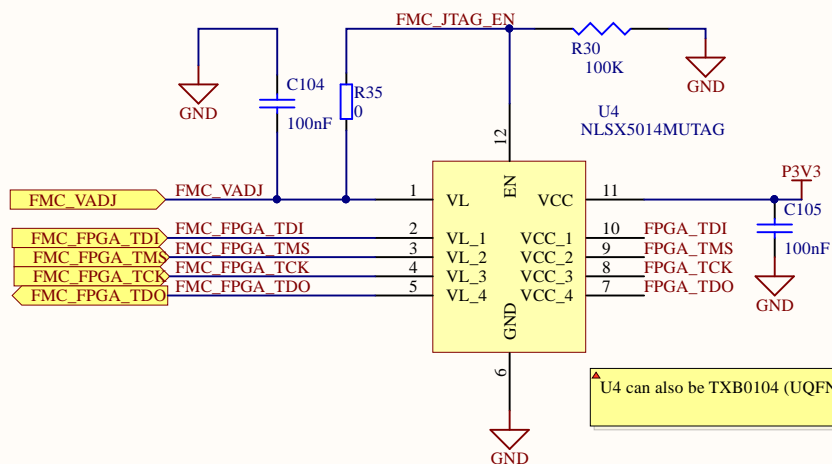
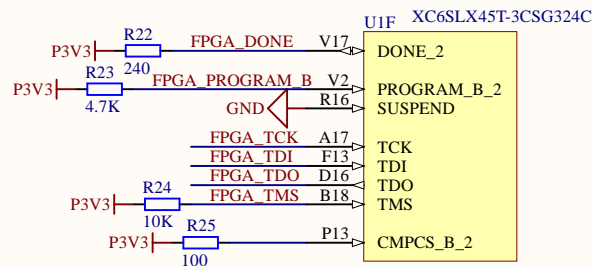
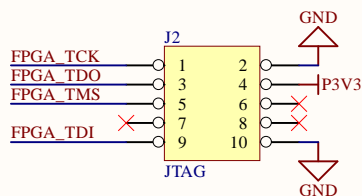
Title CUTEWR-DP			TSINGHUA hongming lihm09@foxmail.com	
Size: A4	Number:5.	Revision: V2		
Date: 2017/02/14		14		
File: 05-FPGA_bank3.SchDoc				



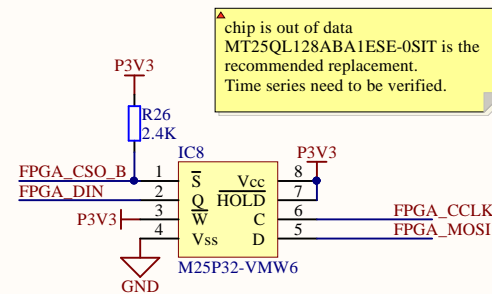
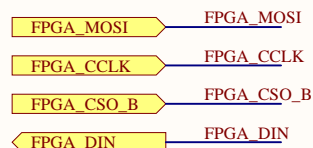
Title CUTEWR-DP			TSINGHUA hongming lihm09@foxmail.com	
Size: A4	Number:6.	Revision: V2		
Date: 2017/02/14		14		
File: 06-FPGA_GTP.SchDoc				

Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v. 1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.



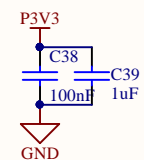
▲ U4 can also be TXB0104 (UQFN12)



▲ chip is out of data
MT25QL128ABA1E5E-0SIT is the
recommended replacement.
Time series need to be verified.


▲ When CS_n is high, Q will stay high
impedence

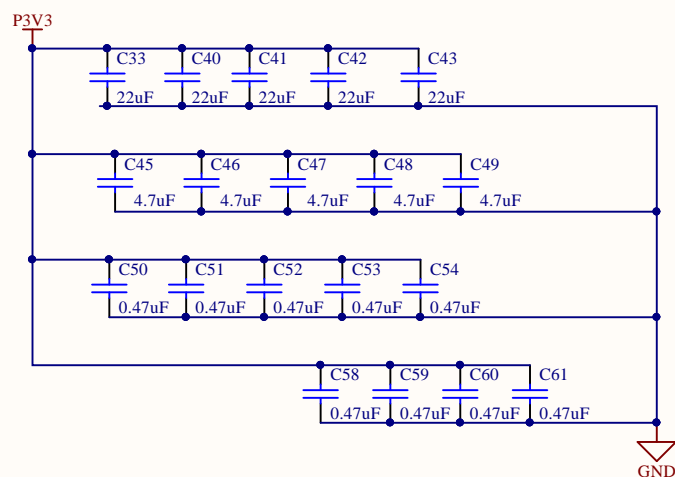
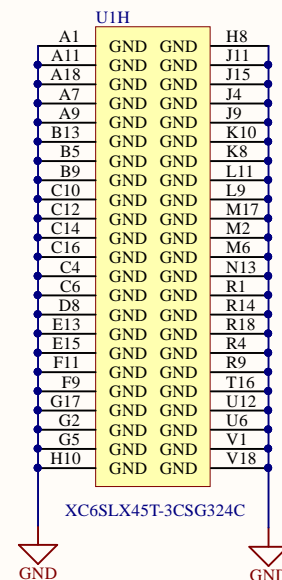
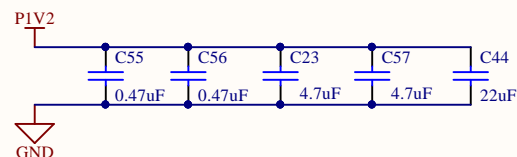
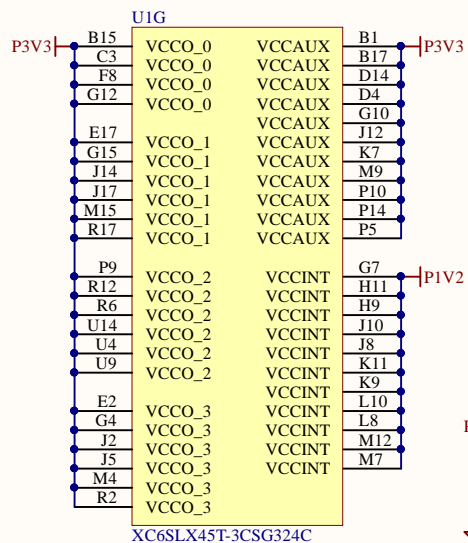
▲ CCLK Termination. See Spartan6 FPGA
Configuration User Guide P52



Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v.1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP			TSINGHUA hongming lihm09@foxmail.com	
Size: A4	Number:7.	Revision: V2		
Date: 2017/02/14		14		
File: 07-FPGA_Config.SchDoc				



Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v.1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP

Size: A4 Number: 8

Date: 2017/02/14

File: 08-FPGA_Power.SchDoc

Revision: V3

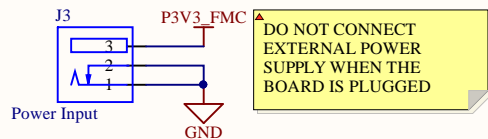
14

TSINGHUA

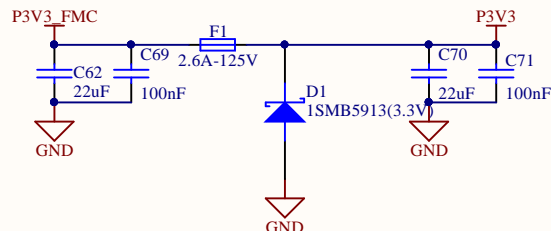
hongming

lihm09@foxmail.com

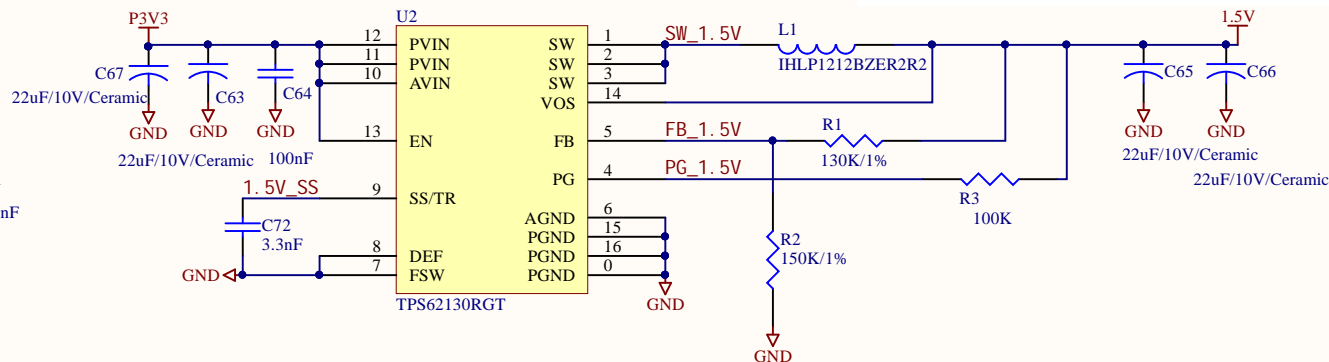
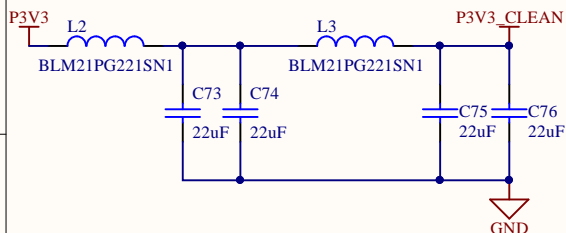




The CUTE-WR can be powered either from FMC or Power Jack

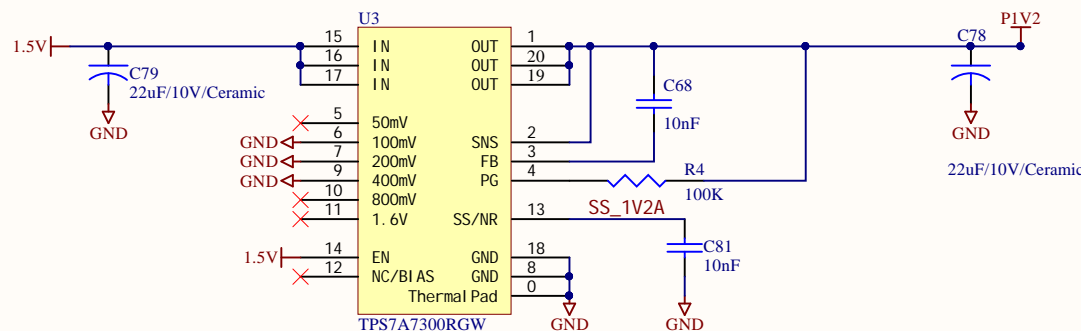


4-pole LC filter. It supplies clean 3.3V for clock distribution circuit



$$V_{out} = 0.8V * (R1 + R2) / R2$$

$$1.5 = 0.8 * (150K + 130K) / 150K$$



Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v.1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP

Size: A4 Number:9.

Date: 2017/02/14

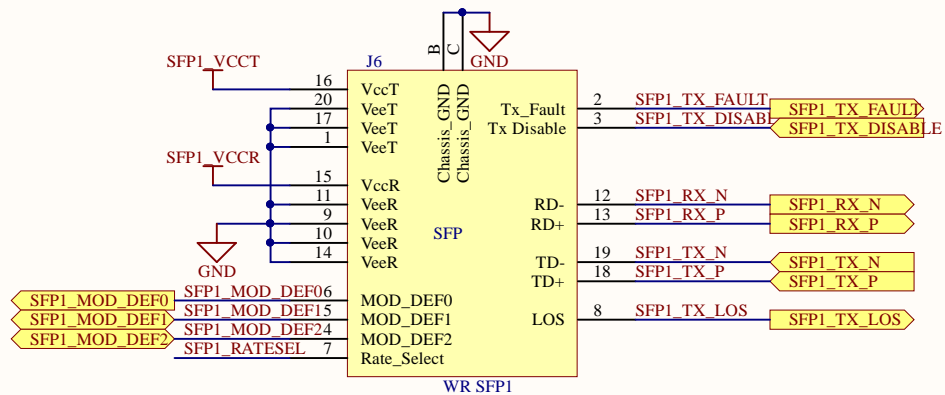
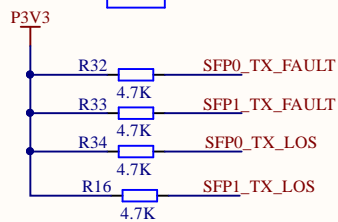
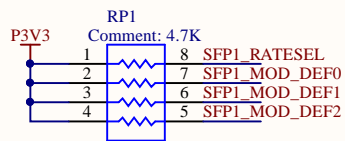
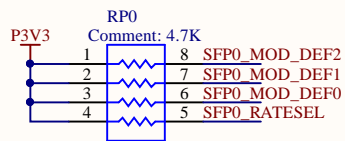
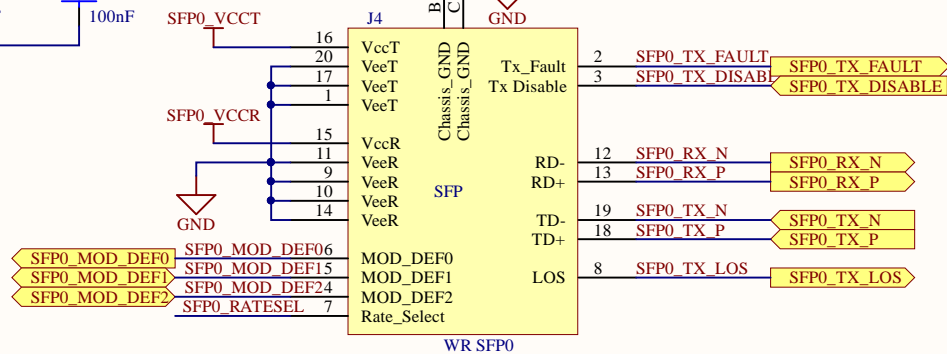
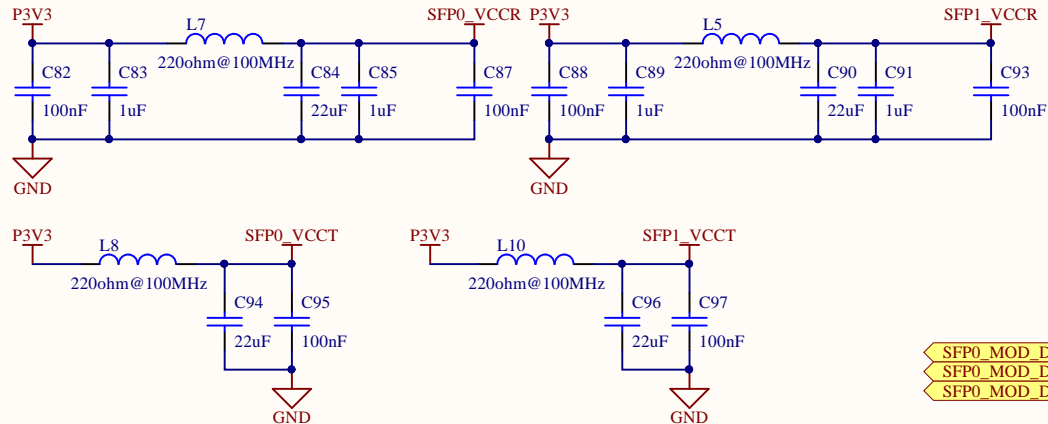
File: 09-Power.SchDoc


TSINGHUA

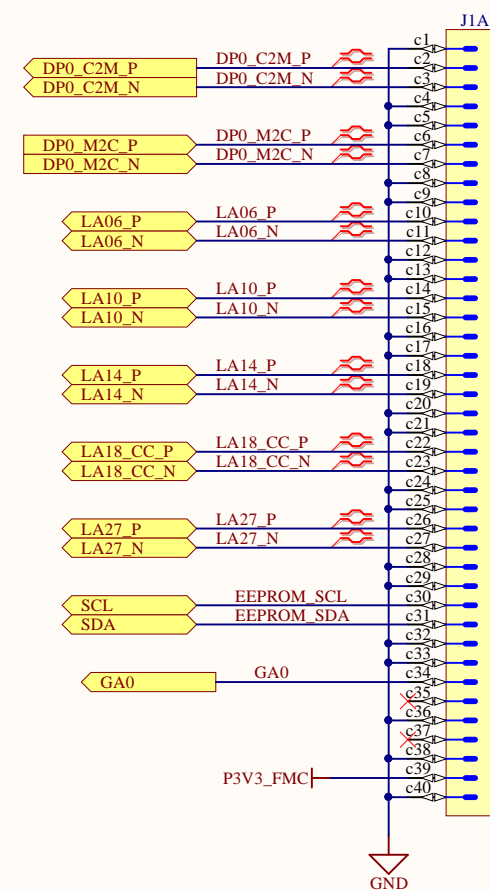
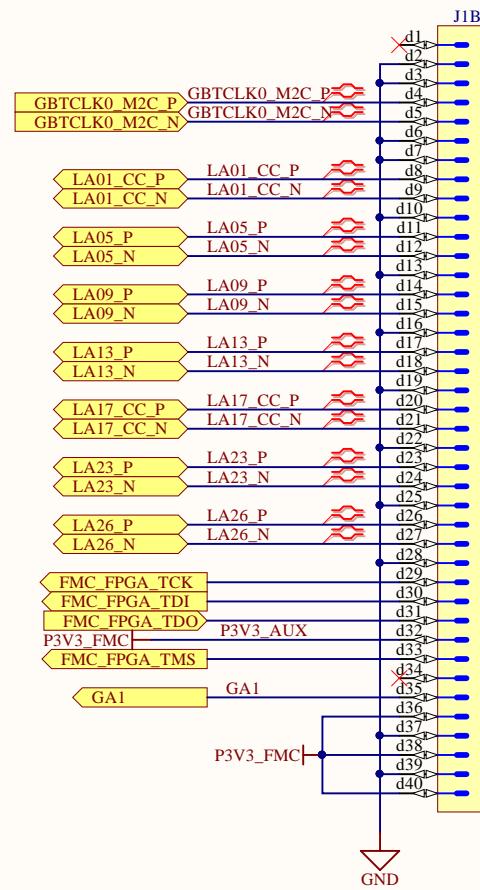
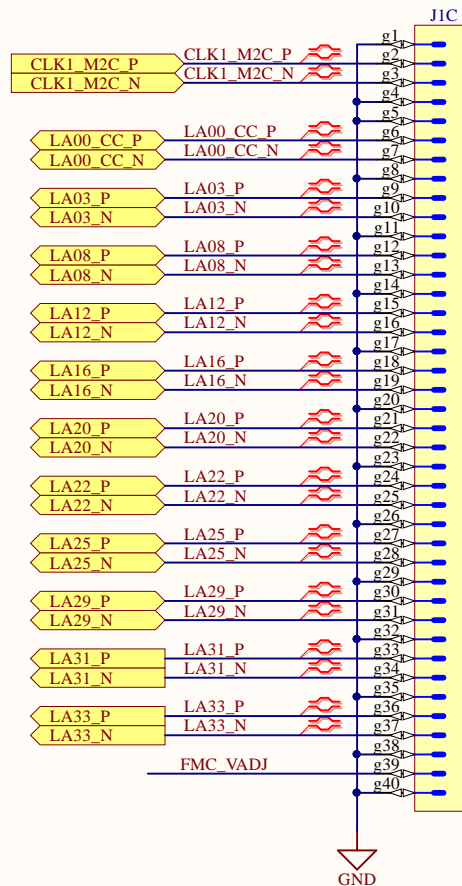
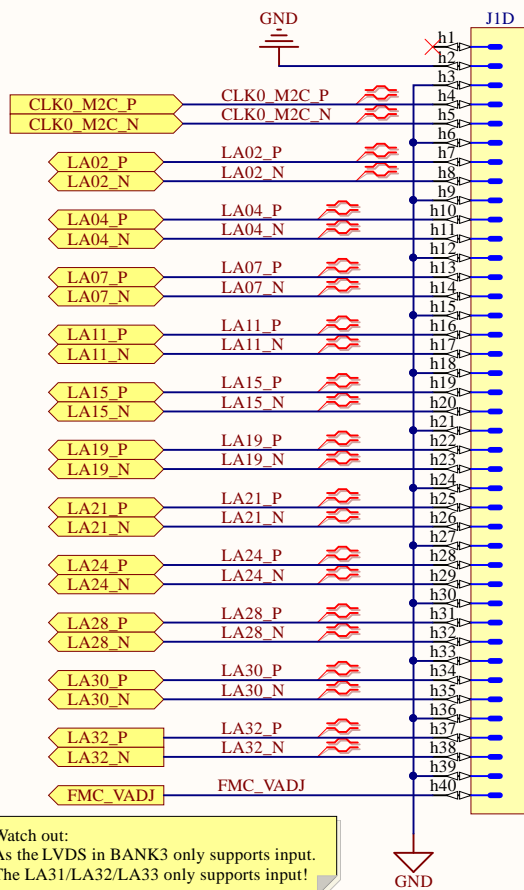
hongming

lihm09@foxmail.com



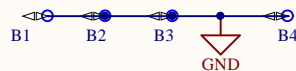


Title CUTEWR-DP			TSINGHUA hongming lihm09@foxmail.com	
Size: A4	Number:10.	Revision: V2		
Date: 2017/02/14		14		
File: 10-SFP.SchDoc				



Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v.1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.



Title CUTEWR-DP

Size: A4 Number:11.

Revision: V2

Date: 2017/02/14

14

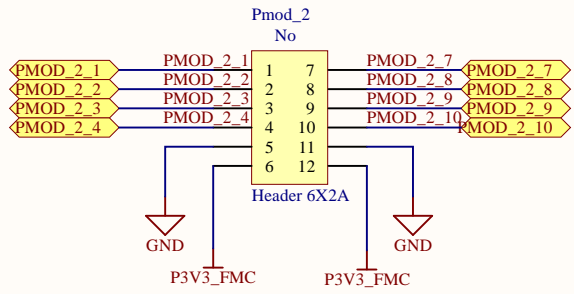
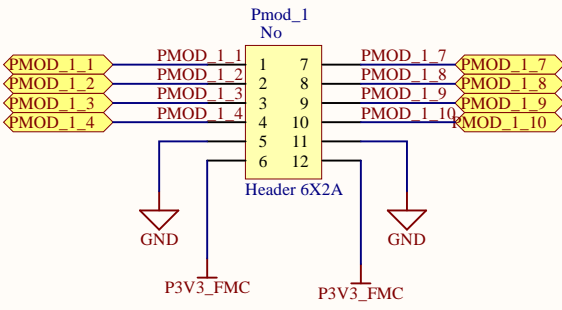
File: 11-FMC_Connector.SchDoc

TSINGHUA

hongming


lihm09@foxmail.com

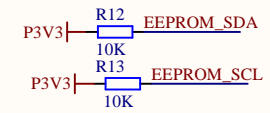
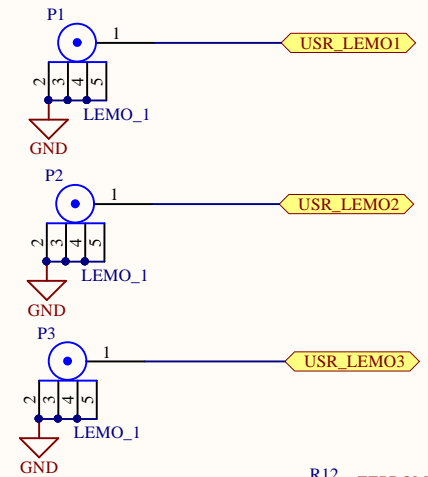
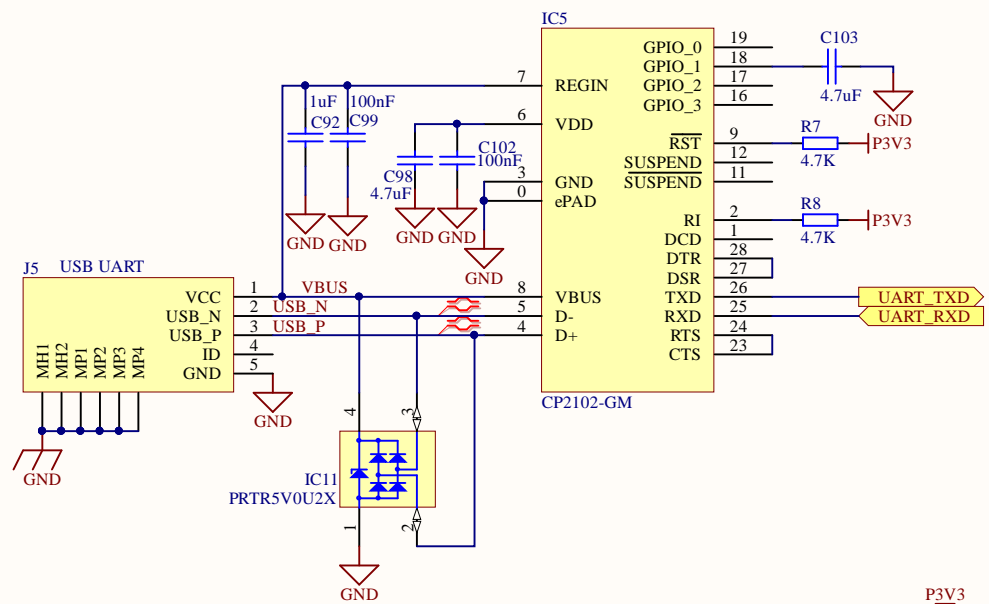




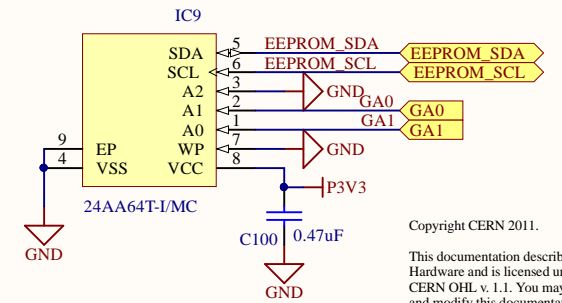
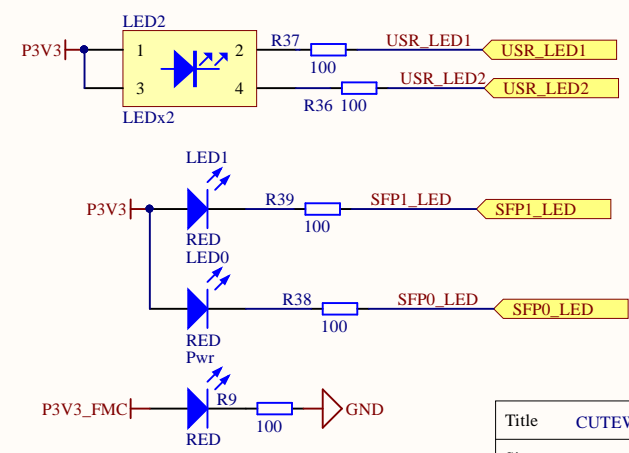
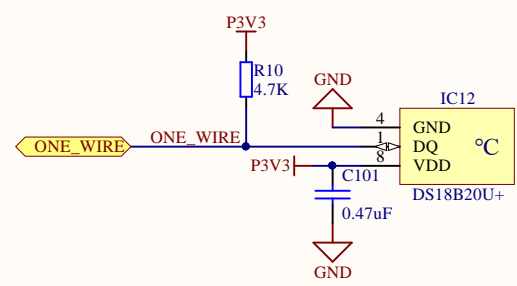
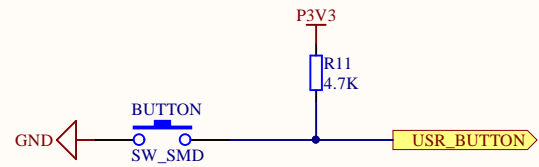
Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v. 1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP			TSINGHUA hongming lihm09@foxmail.com	
Size: A4	Number:12.	Revision: V2		
Date: 2017/02/14		14		
File: 12-Pmod_Connector.SchDoc				




Reduce I2C w/r frequency?



Copyright CERN 2011.

This documentation describes Open Hardware and is licensed under the CERN OHL v. 1.1. You may redistribute and modify this documentation under the terms of the CERN OHL v.1.1. (<http://ohwr.org/CERNOHL>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN OHL v.1.1 for applicable conditions.

Title CUTEWR-DP			TSINGHUA hongming lihmo9@foxmail.com	
Size: A4	Number:13.	Revision: V2		
Date: 2017/02/14		14		
File: 13-User Interface.SchDoc				