PI3WVR31310A evaluation board User's manual

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1.0 Introduction

The PI3WVR31310A evaluation board is to evaluate PI3WVR31310A for 1:3 DP DEMUX function.

2.0 Quick start

2.1. Connect the setup

- Plug EVB in DP source port (figure 1) and connect EVB to DP monitors using 2m DP cables.
- Assure the 3.3V on JP1 (with jumper) from DP source port. Otherwise using USB cable to provide 5V power from PC to J2 (USB port) on EVB.

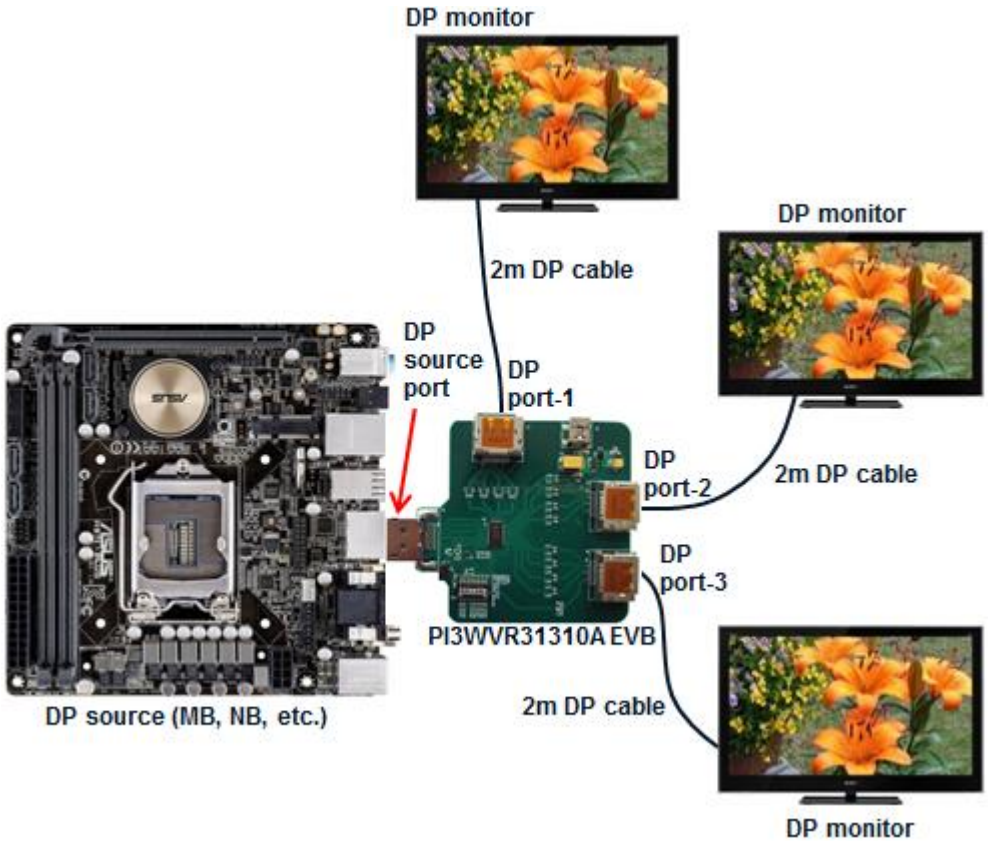


Figure 1, PI3WVR31310A evaluation board test setup

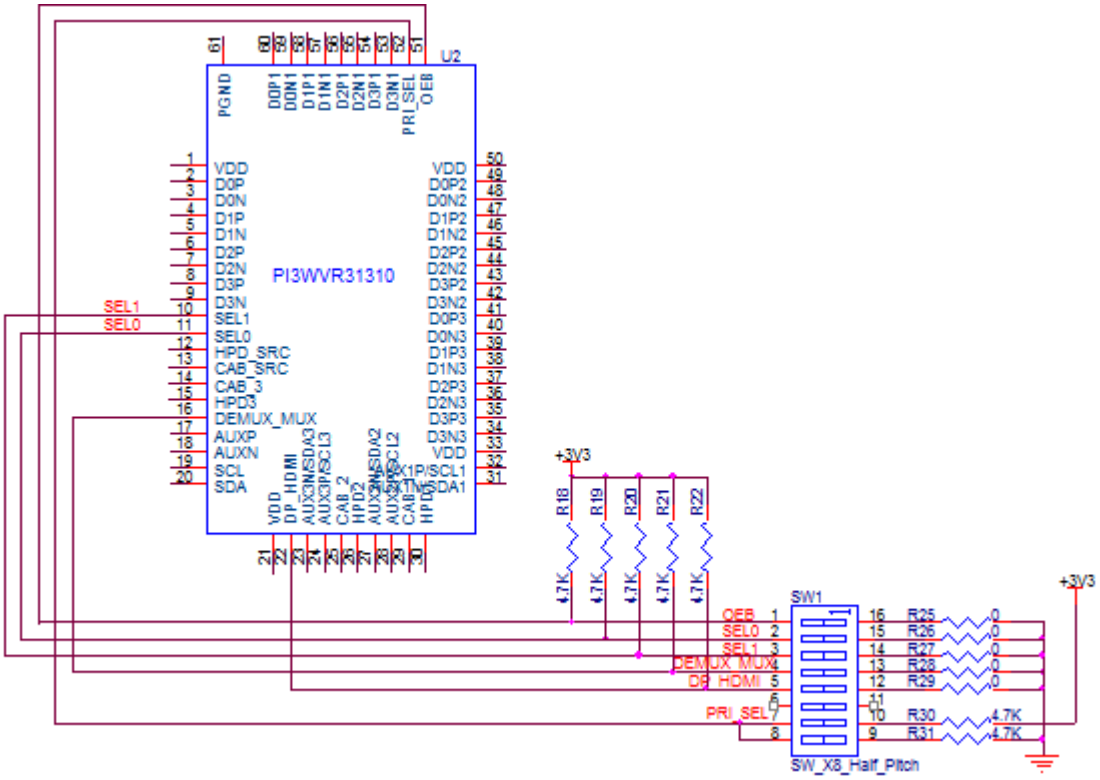


Figure 1, PI3WVR31310A EVB function settings

2.2 Auto switching test

- Connect only one DP monitor to DP port-1, port-2 or port-3 as in figure-1.
- Set control-pins as in table-1.
- The EVB will connect the DP monitor (in any port) to the DP source port

Pin name	Pin logic	SW1 on-off	Function
CEB	0	CH1 on	Activate the chip
SEL[1:0]	11	CH3 off; CH2 off	Auto switching
DEMUX_MUX	0	CH4 on	1:3 DEMUX mode
DP_HDMI	0	CH5 on	DP mode
PRI_SEL	0 (or 1, or M)	CH7 off; CH8 on	Priority: port-1 > port-2 > port-3

Table 1, PI3WVR31310A EVB settings for auto switching test

2.3 Priority test

- Connect 2 (or 3) DP monitors to any DP port-1, port-2 or port-3 as in figure-1.
- Set control-pins as in table-2.
- The EVB will connect the DP monitor with higher priority.

Pin name	Pin logic	SW1 on-off	Function
CEB	0	CH1 on	Activate the chip
SEL[1:0]	11	CH3 off; CH2 off	Priority switching
DEMUX_MUX	0	CH4 on	1:3 DEMUX mode
DP_HDMI	0	CH5 on	DP mode
PRI_SEL	0	CH7 off; CH8 on	Priority: port-1 > port-2 > port-3
PRI_SEL	1	CH7 on; CH8 off	Priority: port-2 > port-3 > port-1
PRI_SEL	M (mid)	CH7 on; CH8 on	Priority: port-3 > port-1 > port-2

Table 2, PI3WVR31310A EVB settings for priority switching test

2.4 Manual switching test

- Connect 1, 2 or 3 DP monitors to DP port-1, port-2 or port-3 as in figure-1.
- Set control-pins as in table-3.
- The EVB will connect the monitor manually selected by SEL[1:0].

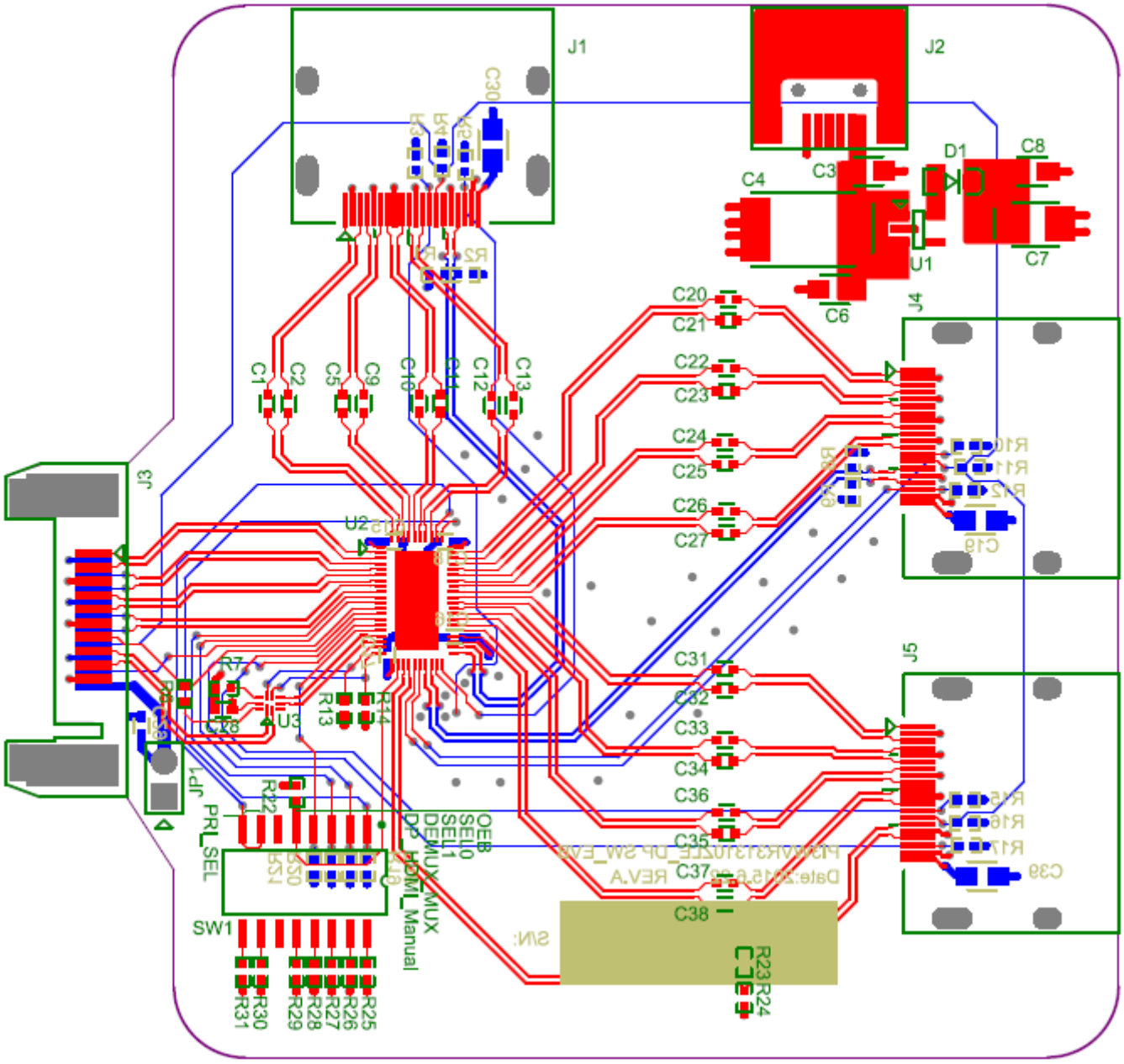
Pin name	Pin logic	SW1 on-off	Function
CEB	0	CH1 on	Activate the chip
SEL[1:0]	00	CH3 on; CH2 on	Port-1 is manually selected
SEL[1:0]	01	CH3 on; CH2 off	Port-2 is manually selected
SEL[1:0]	10	CH3 off; CH2 on	Port-3 is manually selected
DEMUX_MUX	0	CH4 on	1:3 DEMUX mode
DP_HDMI	0	CH5 on	DP mode
PRI_SEL	NA	NA	Priority function disabled

Table 2, PI3WVR31310A EVB settings for manual switching test

3.0 Appendix A: the layout of PI3WVR31310A evaluation board

Note:

- No chokes needed when design PI3WVR31310A in any system.
- PI3WVR31310A is a passive switch without EMI issue.
- Chokes are needed for EMI problem seen with active drivers.



4.0 Appendix B: PI3WVR31310A evaluation boards schematic

Note:

- No chokes needed when design PI3WVR31310A in any system.
- PI3WVR31310A is a passive switch without EMI issue.
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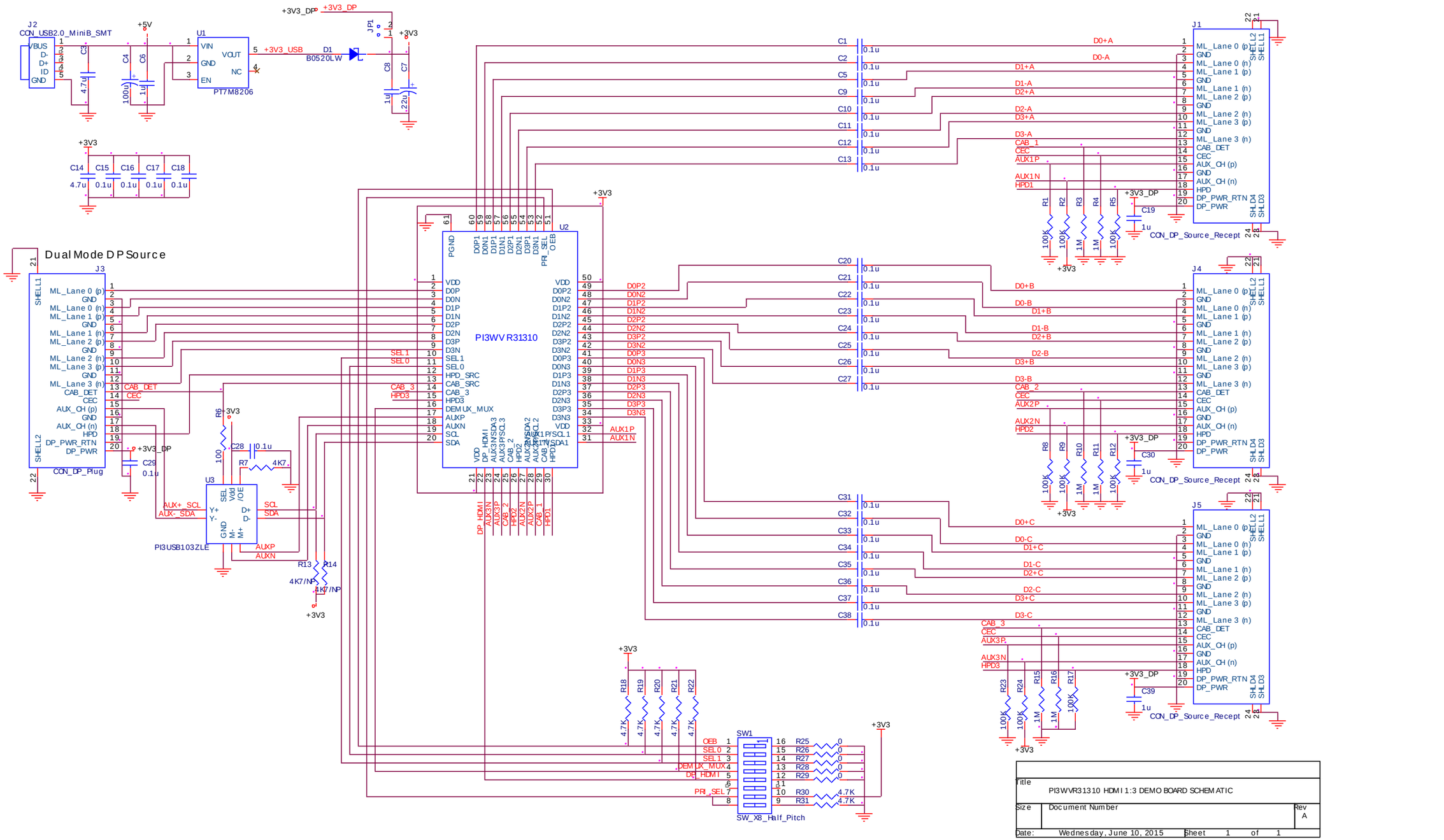

PI3WVR31310A evaluation board schematic

Title	PI3WVR31310 HDMI 1:3 DEMO BOARD SCHEMATIC	
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