

PI2EQX502x PI2EQX502x EVB Rev. A User Manual By YT Tso, Anne Wu and Jerry Chou

• Introduce:

PI2EQX502x is a 1-port low power high performance 5.0Gbps signal ReDriver designed for USB3.0 protocol. The device provides programmable Equalization (EQ) and De-Emphasis (DE) to optimize performance over a variety of physical mediums by reducing Inter-Symbol Interference (ISI)

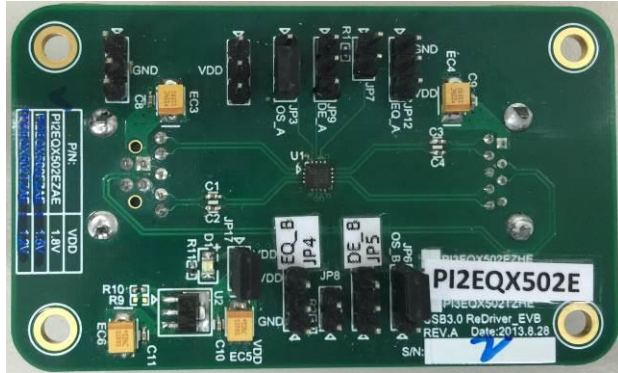


Figure 1(a) Top view of PI2EQX502x EVB



Figure 1(b) Bottom view of PI2EQX502x EVB

• Quick Start — For Default Setting:

To start-up the PI2EQX502x EVB, complete the following steps:

1. Short JP17 for power on EVB
2. Check the head pin status and follow Table 1
3. Connect the **JP1** on EVB to PC's USB3.0 port through a USB3.0 Type A to B cable.
4. Plug the USB3.0 device into EVB USB Type-A connector **JP2** through USB3.0 cable

Table 1--Header pin is set as defaulted on EVB.

Header pin #	Pin name for PI3EQX502(I)	Switch status	Remark
JP4	EQ_B	Short to GND	Equalizer setting on Channel B = 3 dB
JP5	DE_B	Open	De-emphasis setting on Channel B = -3.5 dB
JP8	EQ_B	Open	Pull Low 48k ohm for 12 Equalizer ChannelB setting on 12dB
JP6	OS_B	Open	Output Swing setting at 1000mV
JP9	DE_A	Short	De-emphasis setting on Channel A = -3.5 dB
JP12	EQ_A	Short to GND	Equalizer setting on Channel A = 3 dB
JP7	EQ_A	Open	Pull Low 48k ohm for 12 Equalizer Channel A setting on 12dB
JP3	OS_A	Open	Output Swing setting at 1000mV
JP17	Vdd	Short	Power on EVB and support Vdd to IC

Equalizer setting:

Header pin #	Pin name for PI2EQX502x	Switch status		Remark												
JP12 JP7	EQ_A	JP7 = open JP12 = short to GND	EQ_A=3db	<table border="1"> <thead> <tr> <th colspan="2">Equalizer setting</th> </tr> </thead> <tbody> <tr> <td>EQ</td> <td>@ 2.5GHz</td> </tr> <tr> <td>0 (Tie 0Ω to GND)</td> <td>3 dB</td> </tr> <tr> <td>Open (Leave open)</td> <td>6dB (Default)</td> </tr> <tr> <td>1 (Tie 0Ω to Vdd)</td> <td>9dB</td> </tr> <tr> <td>R (Tie 48kΩ to GND)</td> <td>12dB</td> </tr> </tbody> </table>	Equalizer setting		EQ	@ 2.5GHz	0 (Tie 0Ω to GND)	3 dB	Open (Leave open)	6dB (Default)	1 (Tie 0Ω to Vdd)	9dB	R (Tie 48kΩ to GND)	12dB
		Equalizer setting														
		EQ	@ 2.5GHz													
		0 (Tie 0Ω to GND)	3 dB													
Open (Leave open)	6dB (Default)															
1 (Tie 0Ω to Vdd)	9dB															
R (Tie 48kΩ to GND)	12dB															
JP7 = open JP12 = open	EQ_A=6db															
JP7 = open JP12 = short to VDD	EQ_A=9db															
JP7 = short JP12 = open	EQ_A=12db															
JP4 JP8	EQ_B	JP8 = open JP4 = short to GND	EQ_B=3db													
		JP8 = open JP4 = open	EQ_B=6db													
		JP8 = open JP4 = short to VDD	EQ_B=9db													
		JP8 = short JP4 = open	EQ_B=12db													

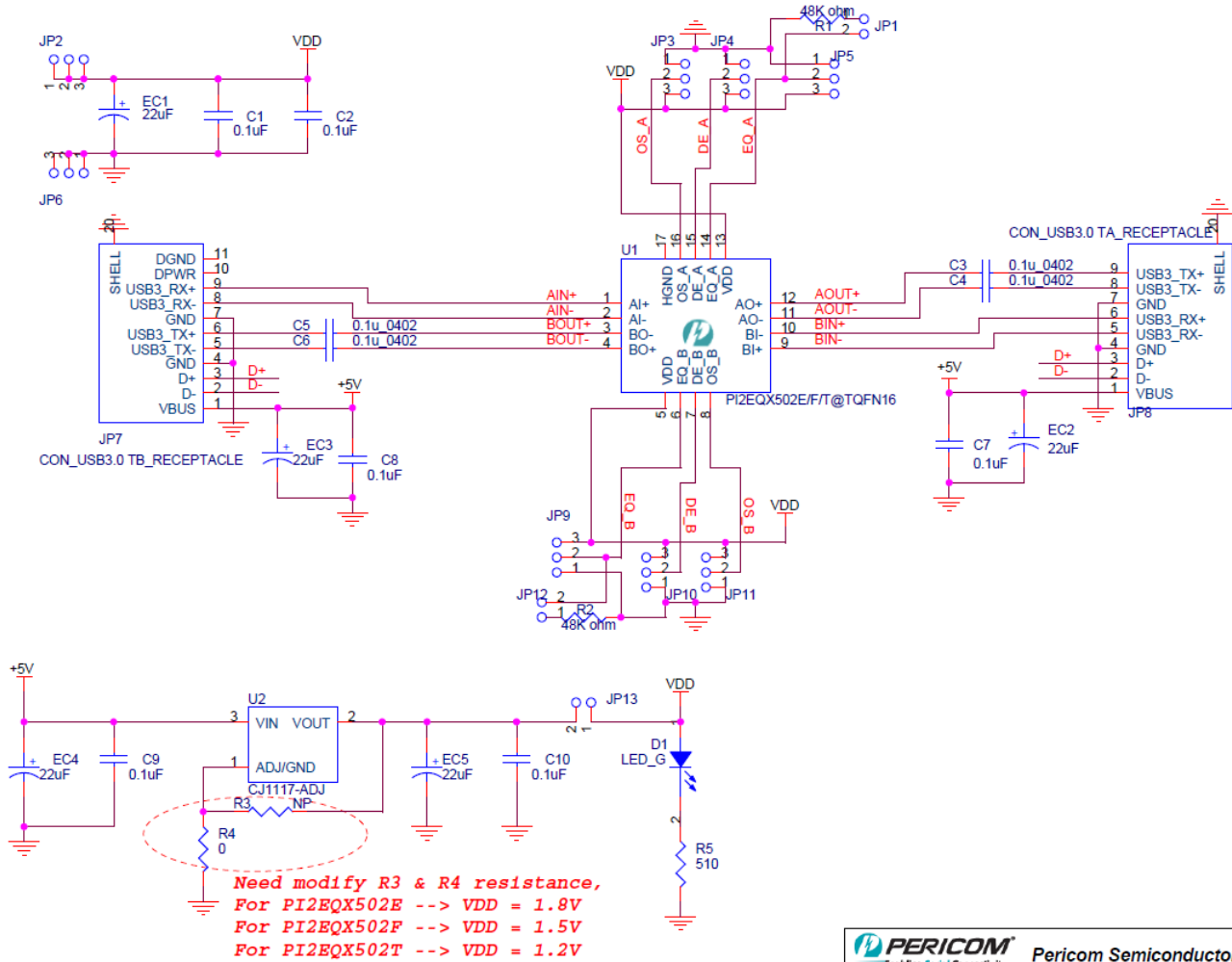
De-emphasis setting:

Header pin #	Pin name for PI2EQX502x	Switch status		Remark										
JP9	DE_A	JP9 = short to GND	DE_A=0db	<table border="1"> <thead> <tr> <th colspan="2">Output de-emphasis setting</th> </tr> </thead> <tbody> <tr> <td>DE_A/B</td> <td>@ 2.5GHz</td> </tr> <tr> <td>0</td> <td>0 dB</td> </tr> <tr> <td>open</td> <td>-3.5 dB</td> </tr> <tr> <td>1</td> <td>-6 dB</td> </tr> </tbody> </table>	Output de-emphasis setting		DE_A/B	@ 2.5GHz	0	0 dB	open	-3.5 dB	1	-6 dB
		Output de-emphasis setting												
		DE_A/B	@ 2.5GHz											
0	0 dB													
open	-3.5 dB													
1	-6 dB													
JP9 = open	DE_A=-3.5db													
JP9 = short to VDD	DE_A=-6db													
JP5	DE_B	JP5 = short to GND	DE_A=0db											
		JP5 = open	DE_A=-3.5db											
		JP5 = short to VDD	DE_A=-6db											

Output Swing setting

Header pin #	Pin name for PI2EQX502x	Switch status		Remark										
JP3	OS_A	JP3 = short to GND	OS_A=700mVppd	<table border="1"> <thead> <tr> <th colspan="2">Output swing setting</th> </tr> </thead> <tbody> <tr> <td>OS</td> <td>Output swing</td> </tr> <tr> <td>0</td> <td>700 mVppd</td> </tr> <tr> <td>Open</td> <td>1000 mVppd (default)</td> </tr> <tr> <td>1</td> <td>1200 mVppd</td> </tr> </tbody> </table>	Output swing setting		OS	Output swing	0	700 mVppd	Open	1000 mVppd (default)	1	1200 mVppd
		Output swing setting												
		OS	Output swing											
0	700 mVppd													
Open	1000 mVppd (default)													
1	1200 mVppd													
JP3 = open	OS_A=1000mVppd													
JP3 = short to VDD	OS_A=1200mVppd (PI2EQX502T no support)													
JP6	OS_B	JP6 = short to GND	OS_B=700mVppd											
		JP6 = open	OS_B=1000mVppd											
		JP6 = short to VDD	OS_B=1200mVppd (PI2EQX502T no support)											

PI2EQX502x EVB Schematic



PI2EQX502E_F_T_USB3_redriver_EVB REVA.zip

Pericom Semiconductor Corporation		Rev
Size	Document Name	A
A	PI3EQX502E/FT USB3 ReDriver EVB	A

