PI3EQX501(I)

PI3EQX501(I) EVB Rev.A User Manual

By YT Tso, Anne Wu and Jessy Chen

- ## Introduce:

PI3EQX501(I) is a 1-channel 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)

- ## Quick Start — For Default Setting:

To start-up the PI3EQX501(I) EVB, complete the following steps:

For TX test,

1. Check the head pin status and follow Table 1
2. Connect the JP4 on EVB to PC's USB3.0 port through a USB3.0 Type A to B cable.
3. Plug the USB3.0 device into EVB USB Type-A connector JP6 through USB3.0 cable

For RX test,

4. Check the head pin status and follow Table 1
5. Connect the JP10 on EVB to PC's USB3.0 port through a USB3.0 Type A to B cable.
6. Plug the USB3.0 device into EVB USB Type-A connector JP11 through USB3.0 cable

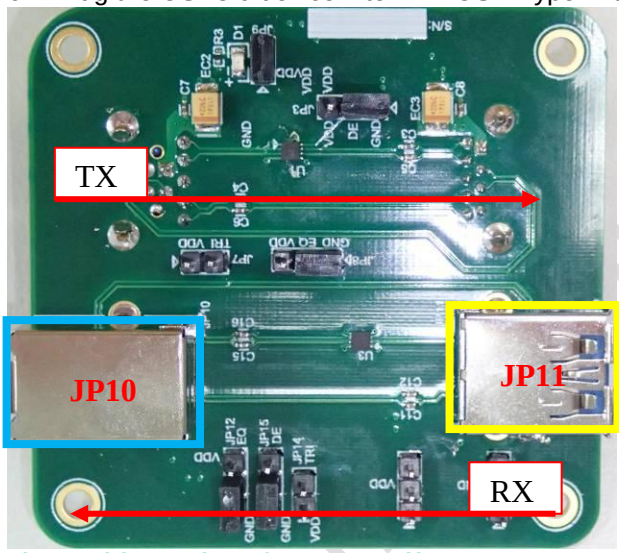


Figure 1(a) Top view of PI3EQX501(I) EVB

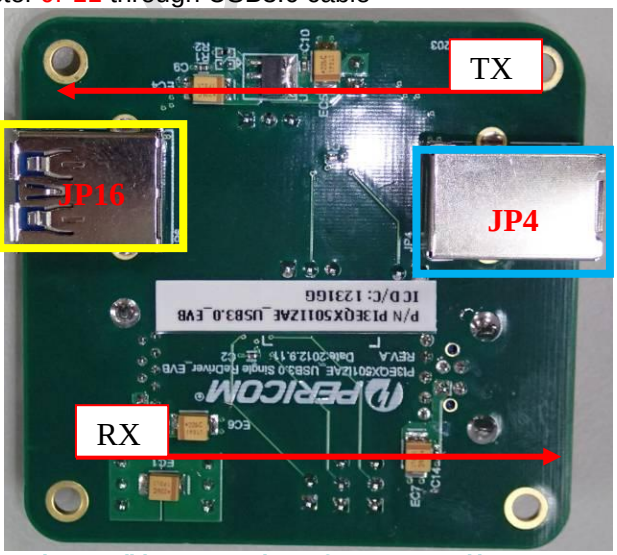


Figure 1(b) Bottom view of PI3EQX501(I) EVB

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

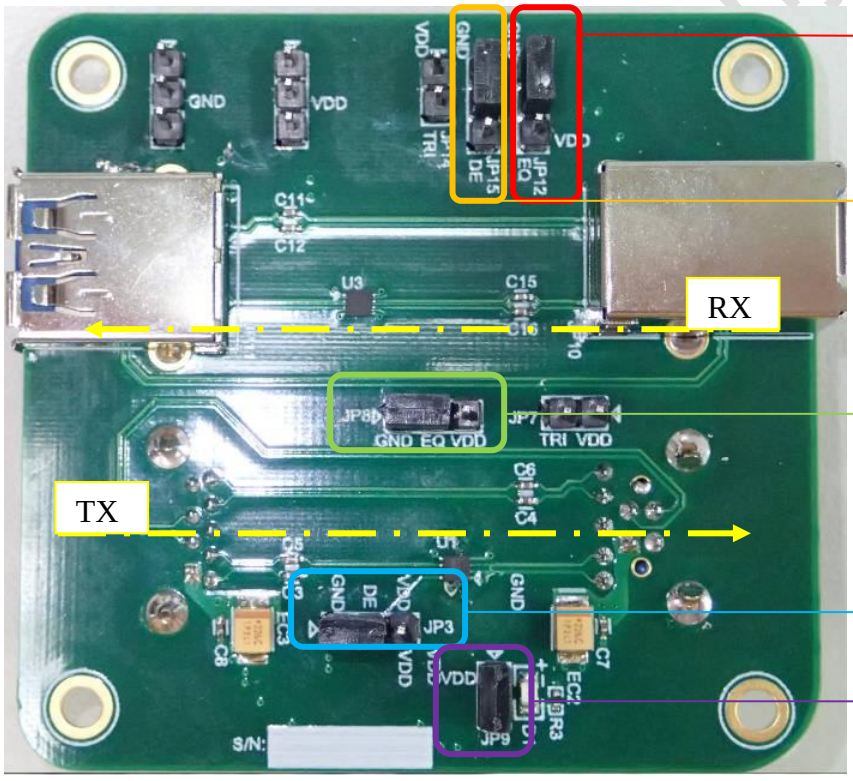
Header pin #	Pin name for PI3EQX7841	Switch status	Remark
JP3	DE	Short to GND	De-emphasis setting on TX side
JP7	TRI	Open	Normal Operating mode on TX side-> RX.Detect enabled
JP8	EQ	Short to GND	Equalizer setting on TX side
JP9	VDD	Short	Power on PI3EQX501(I) both TX and RX sides.
JP12	EQ	Open	Equalizer setting on RX side
JP14	TRI	Open	Normal Operating mode on RX side-> RX.Detect enabled
JP15	DE	Short to GND	De-emphasis setting on RX side

Equalizer setting:

Header pin #	Pin name for PI3EQX501(I)		Switch status	Remark
JP8	EQ	TX	Short to GND	Equalizer setting EQ: @ 2.5GHz 0: 3 dB open: 6dB (Default) 1: 9dB
JP12	EQ	RX	Short to GND	

De- emphasis setting:

Header pin #	Pin name for PI3EQX501(I)		Switch status	Remark
JP3	DE	TX	Open	Output de-emphasis setting DE: De-emphasis 0: 0 dB open: -3.5 dB 1: -6 dB
JP15	DE	RX	Open	



JP12 short to GND: EQ=3dB on RX side

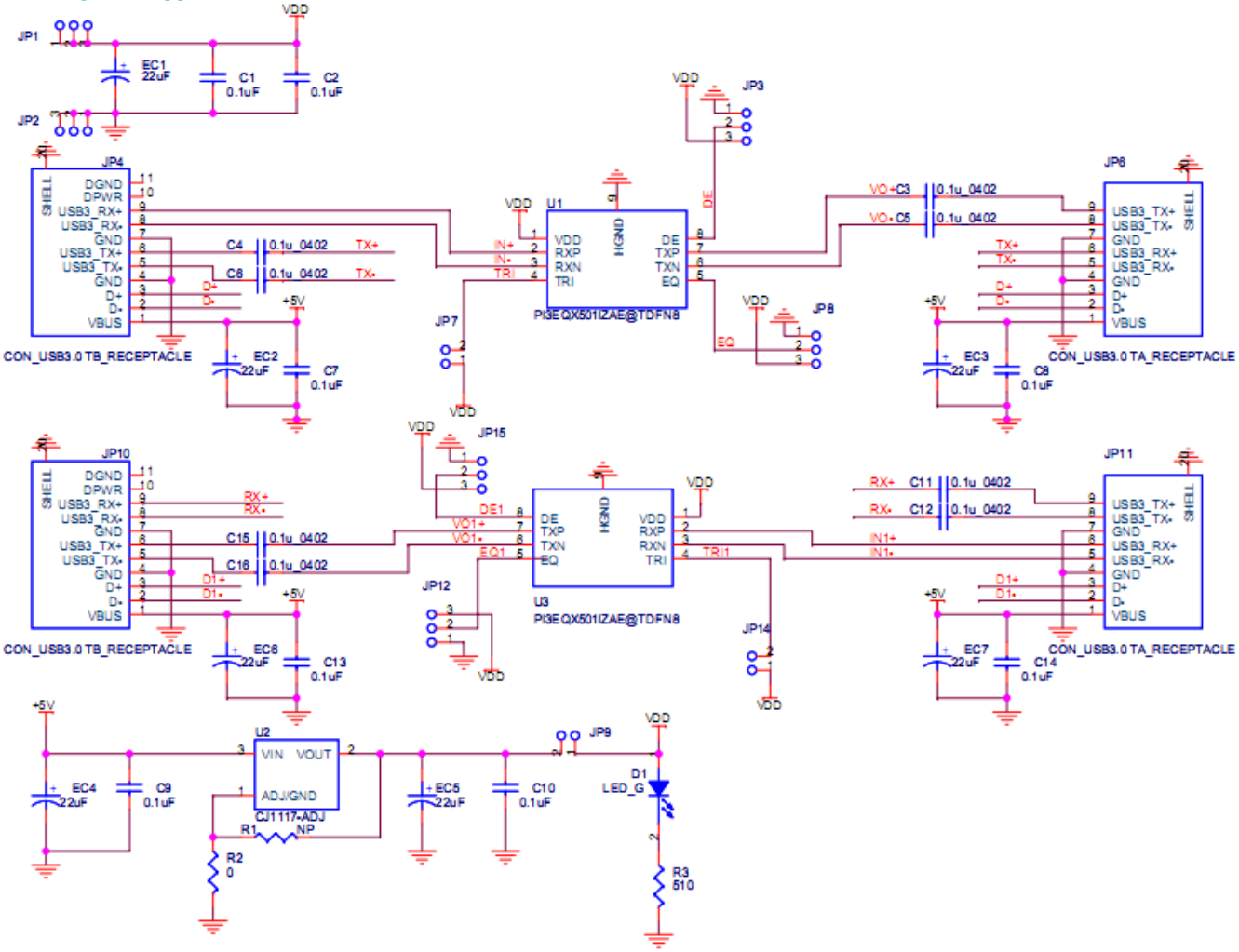
JP15 short to GND: DE=0dB on RX side

JP8 short to GND: EQ=3dB on TX side

JP3 short to GND: DE=0dB on TX side

JP9 short: Power on PI3EQX501 (I)

PI3EQX501(I) EVB Schematic



PCB Layout

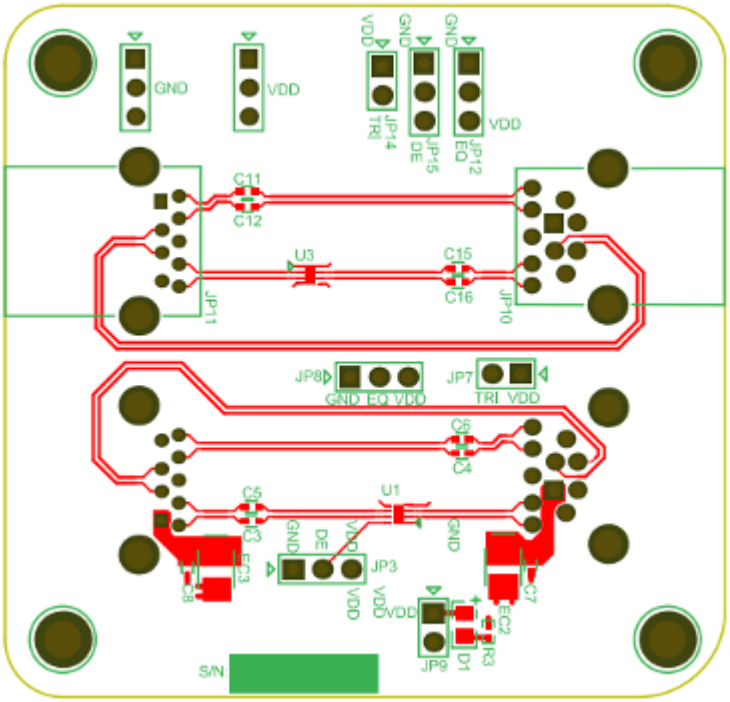


Figure 2, Top view of PI3EQX501(I) EVB Layout

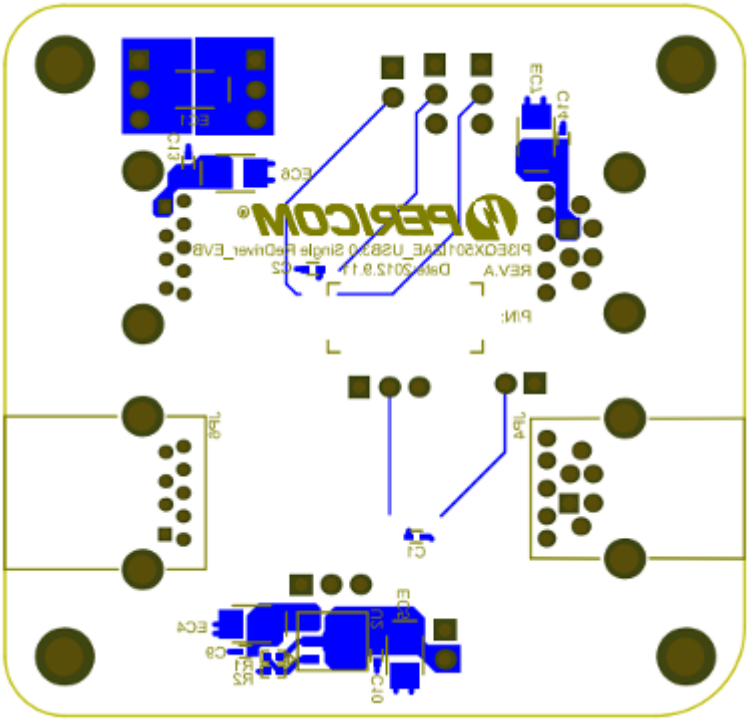


Figure 3, Bottom view of PI3EQX501(I) EVB Layout