

This document illustrates the function and relative factors of each connector adaptor card which is used for HSTC connector. HSTC connector is a 180pin high speed connector designed by Terasic. The connector is fully compatible with Altera HSMC connector as well. Terasic provides a series of HSTC connector adaptor card which gives users more flexibility when utilizing the interfaces of HSTC connector. In addition to this, we also provide a testing adaptor card which enables the users to perform a self-test over the I/O pins on the HSTC connector. Several models of HSTC connector adaptor cards are ready for you now:

- THCB_HFF
- THCB_HMM
- THCB_HTR
- THCB_HLB
- THCB_SFF
- THCB_CFF

The chapters below demonstrate the detailed function and usage.

1. THCB_HFF

As shown in [Figure 1](#) and [Figure 2](#), THCB_HFF adaptor card has Female Pin Heads on both sides of the board. To connect two HSTC connectors, which are both Male Pin Heads, users can easily achieve the connection with the THCB_HFF adaptor card. [Figure 3](#) illustrates how to connect TRDB_H2G(male HSTC connector) with a DE3 board (male HSTC connector).



Figure 1. The top view of the THCB_HFF



Figure 2. The bottom view of the THCB_HFF

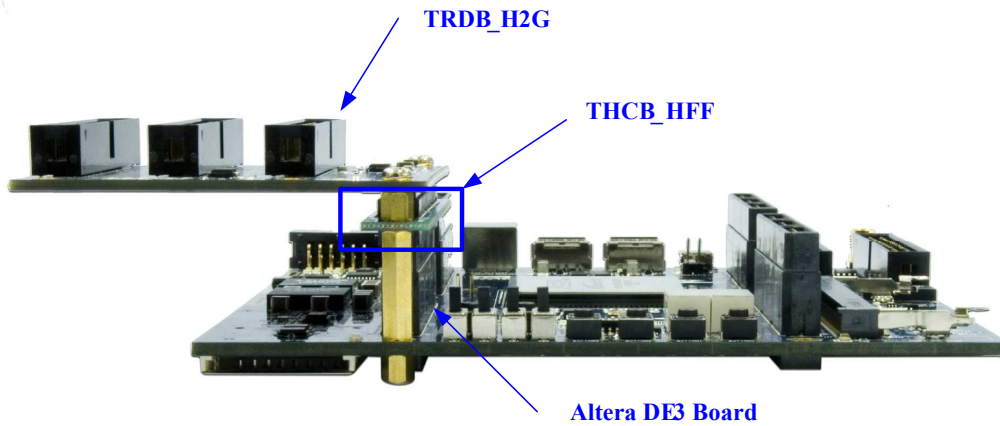


Figure 3. The connection setup for DE3 board and TRDB_H2G via THCB_HFF

2. THCB_HMM

THCB_HMM adaptor card, on the other hand, has two Male Pin Heads on the both sides per se as shown in [Figure 4](#) and [Figure 5](#). Users can connect two Female HSTC connector card with THCB_HMM adaptor card.

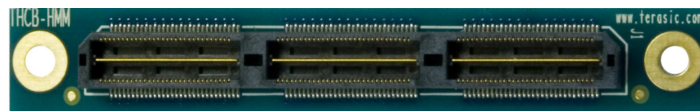


Figure 4. The top view of the THCB_HMM

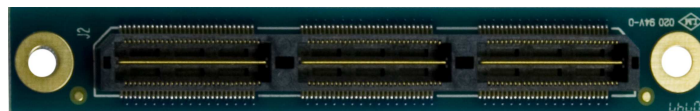


Figure 5. The bottom view of the THCB_HMM

3. THCB_HTR

THCB_HTR adaptor card provides a Male and a Female Pin Head of HSTC connector. The I/O pins of the both sides (i.e., the male side and the female side) are inter connected. By this delicate design (see [Figure 6](#)), users can conduct the TX signal and the RX signal coming from

both upper side and lower side in the differential pattern via THCB_HTR adaptor card.

Figure 7 and Figure 8 are the both sides of the THCB_HMM adaptor card.

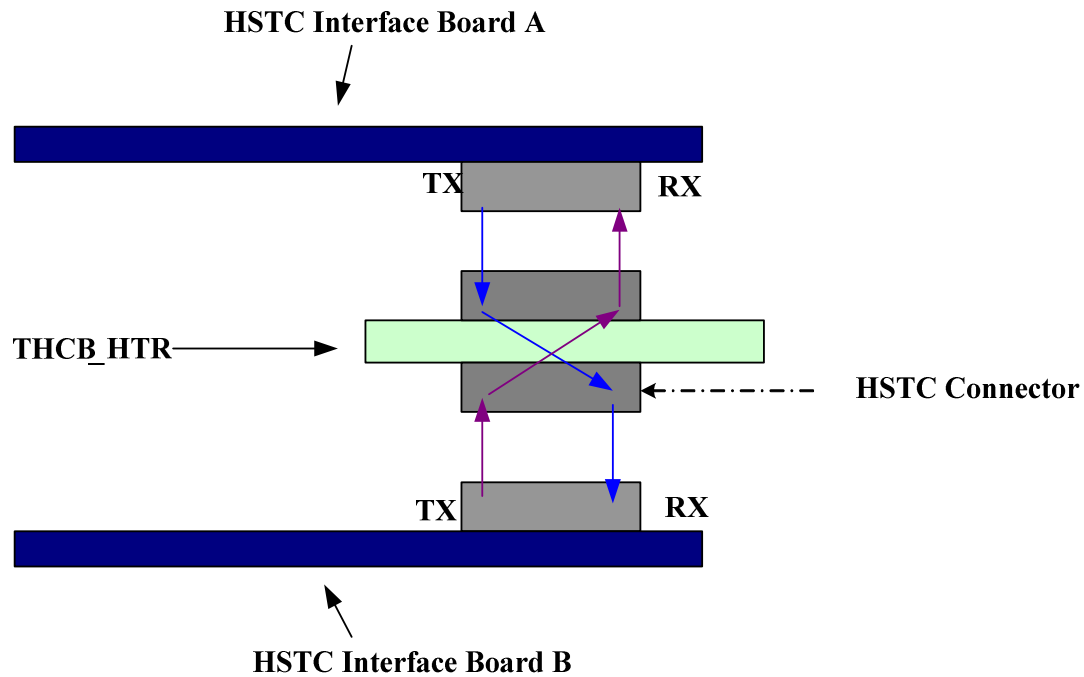


Figure 6. The signal flow for THCB_HTR adaptor card

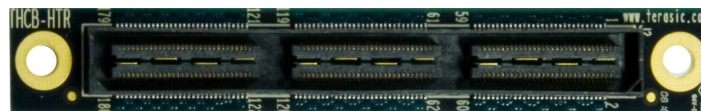


Figure 7. The top view of the THCB_HTR

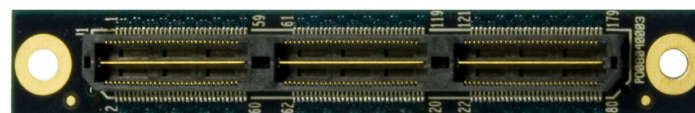


Figure 8. The bottom view of the THCB_HTR

4. THCB_HLB

THCB_HLB is designed to test the functionality of the I/O pins on the HSTC connector. As shown in Figure 9, the I/O pins on the left and the I/O pins on the right are connected as short. Users can install the THCB_HLB onto the HSTC connector for testing. By sending signals to one end and receiving signals from the other end, users can see if all the I/O pins are functional. Figure 10 and Figure 11 illustrates the both sides of the THCB_HLB.

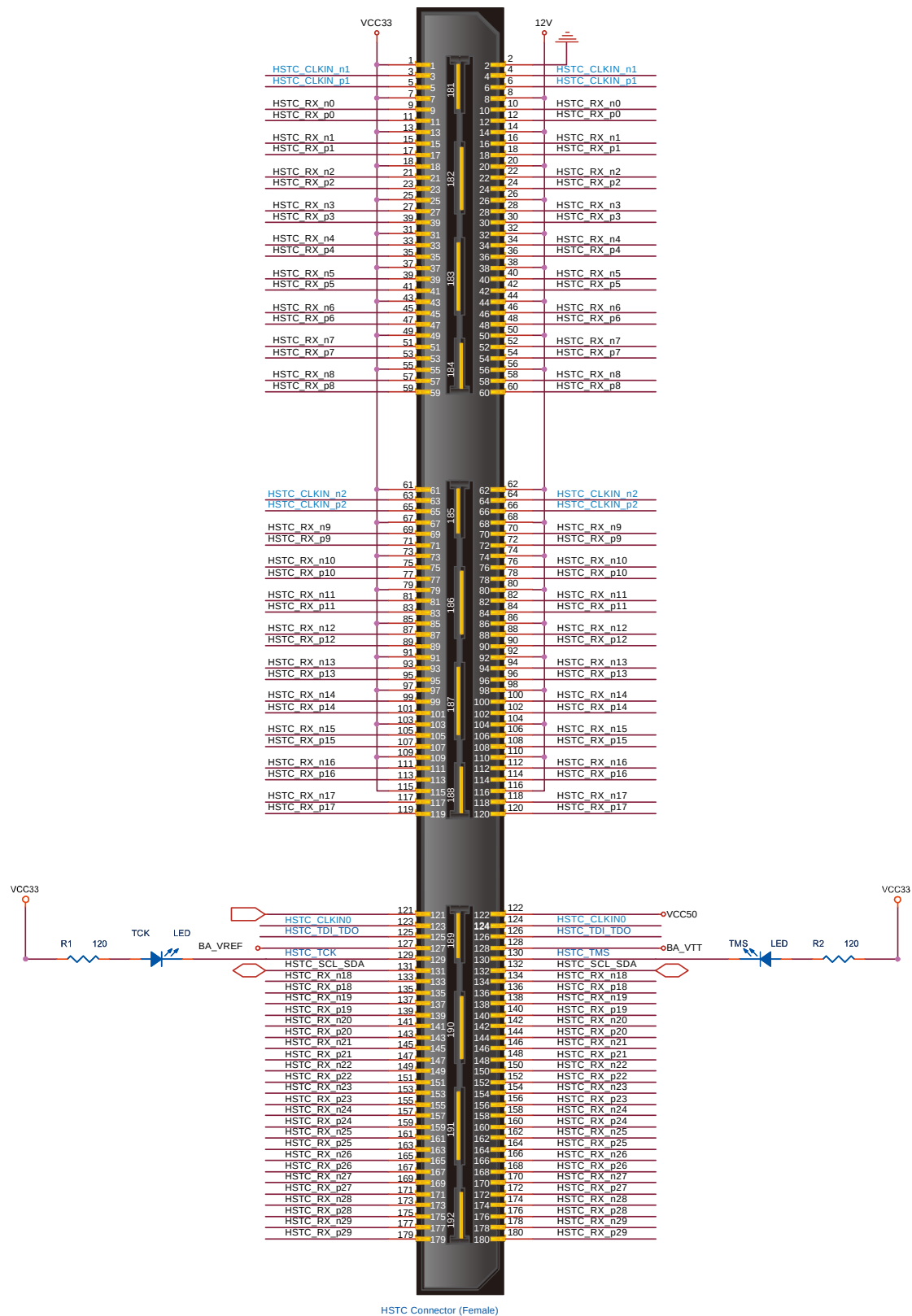


Figure 9. The schematic of the THCB_HLB



Figure 10. The top view of the THCB_HLB



Figure 11. The bottom view of the THCB_HLB

5. THCB_SFF

THCB_SFF adapter card is designed for bypassing JTAG signal form host board to daughter board via a one-position dip switch (Please refer to [Figure 12](#) and [Figure 13](#)). When HSTC daughter board connects HOST board through THCB_SFF, HSTC daughter board can bypass the signal of JTAG interface from TDO to TDI. [Figure 14](#) and [Figure 15](#) are the both sides of the THCB_HMM adaptor card.

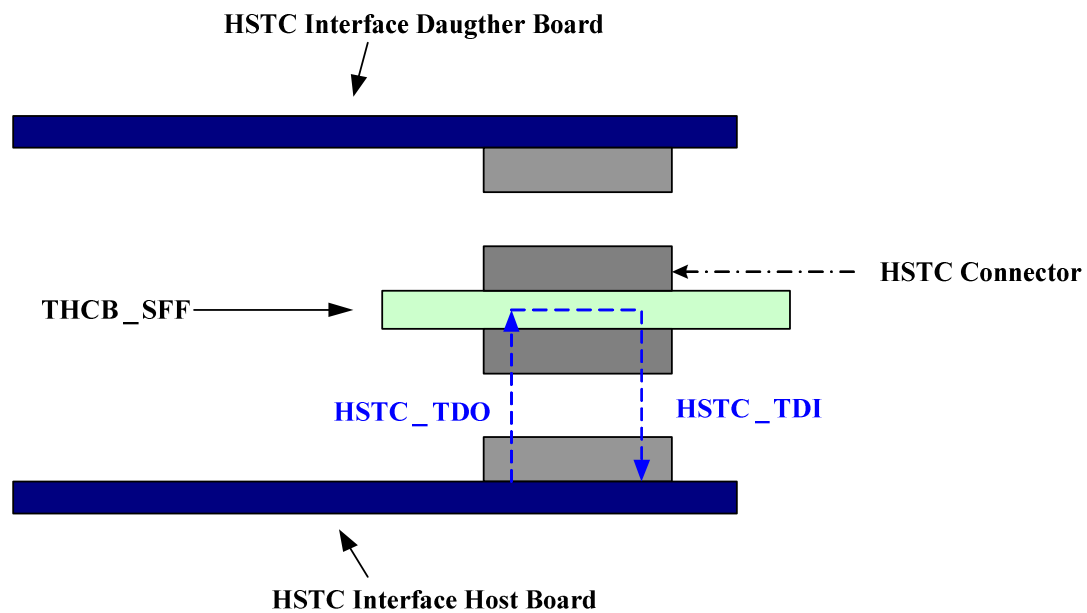


Figure 12. The signal flow for THCB_SFF adaptor card

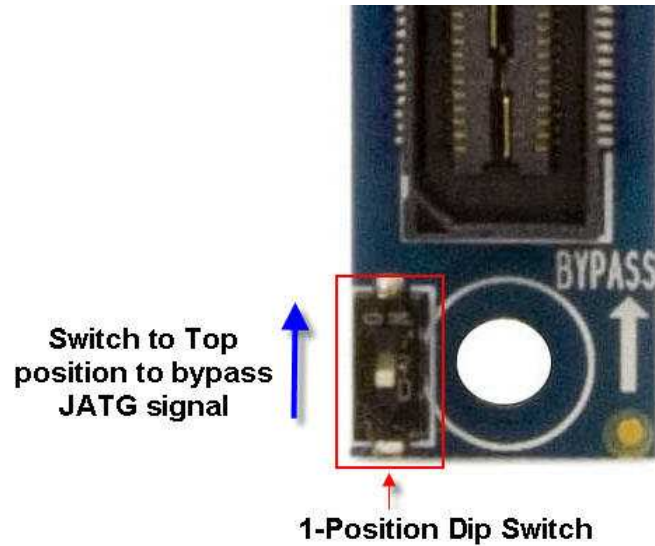


Figure 13. The one-position dip switch for JTAG interface control



Figure 14. The top view of the THCB_SFF



Figure 15. The bottom view of the THCB_SFF

6. THCB_CFF

THCB_CFF can switch the clock pair, HSTC_CLKIN_0 and HSTC_CLKIN_1, between two HSTC interface boards. In other words, the "clock pair HSTC_CLKIN_0" of HSTC interface board A pass through THCB_CFF adaptor card and then connect with the clock pair HSTC_CLKIN_1 of HSTC interface board B (See [Figure 16](#)).

In addition, THCB_CFF has the same function as THCB_SFF adaptor card, it can bypass the JTAG interface signal via a one-position dip switch. [Figure 17](#) and [Figure 18](#) are the both sides of the THCB_HMM adaptor card.

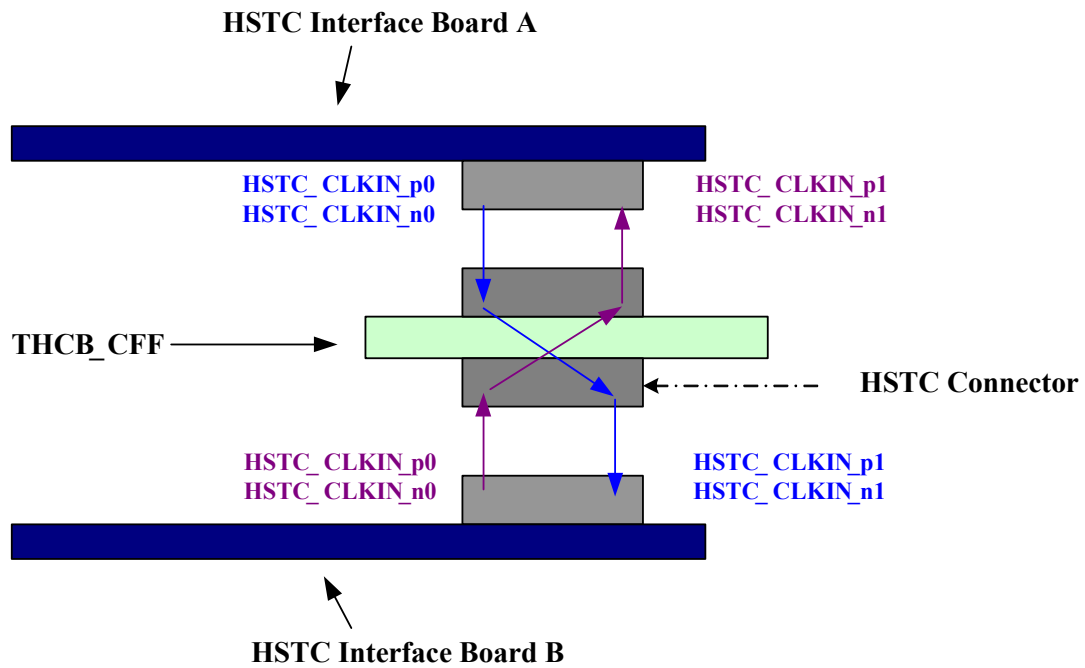


Figure 16. The signal flow for THCB_CFF adaptor card



Figure 17. The top view of the THCB_CFF



Figure 18. The bottom view of the THCB_CFF

Revision History

Date	Version	Changes
2008.6	First publication	
2008.11	v.1.1	1. Add descriptions for THCB-SFF and THCB-CFF