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:

- THDB_HFF
- THDB_HMM
- THDB_HTR
- THDB_HLB
- THDB_SFF
- THDB_CFF

The chapters below demonstrate the detailed function and usage.

1. THDB_HFF

As shown in Figure 1 and Figure 2, THDB_HFF adaptor card has Female Pin Heads on both sides of the bard. To connect two HSTC connectors, which are both Mail Pin Heads, users can easily achieve the connection with the THDB_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 THDB_HFF

Figure 2. The bottom view of the THDB_HFF

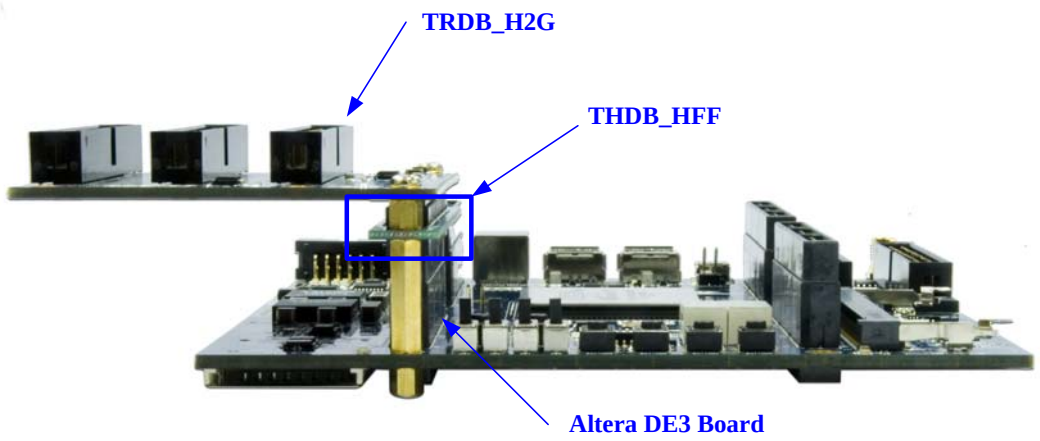

Figure 3. The connection setup for DE3 board and TRDB_H2G via THDB_HFF

2. THDB_HMM

THDB_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 THDB_HMM adaptor card.

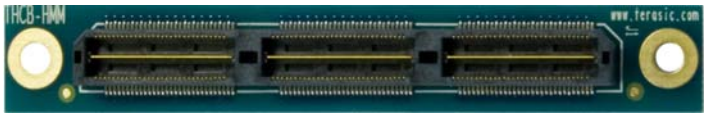

Figure 4. The top view of the THDB_HMM

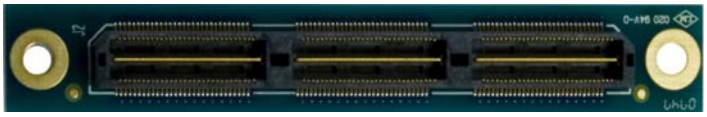

Figure 5. The bottom view of the THDB_HMM

3. THDB_HTR

THDB_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 THDB_HTR adaptor card. Figure 7 and Figure 8 are the both sides of the THDB_HMM adaptor card.

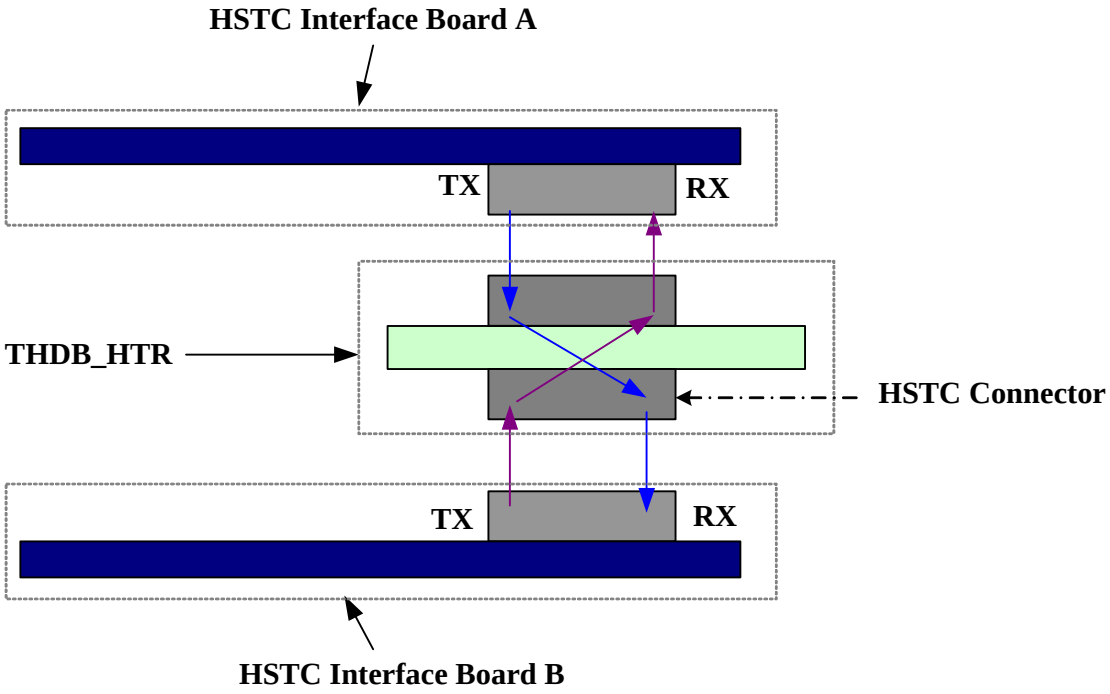

Figure 6. The signal flow for THDB_HTR adaptor card

Figure 7. The top view of the THDB_HTR

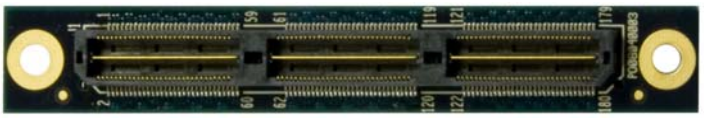

Figure 8. The bottom view of the THDB_HTR

4. THDB_HLB

THDB_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 THDB_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 THDB_HLB.

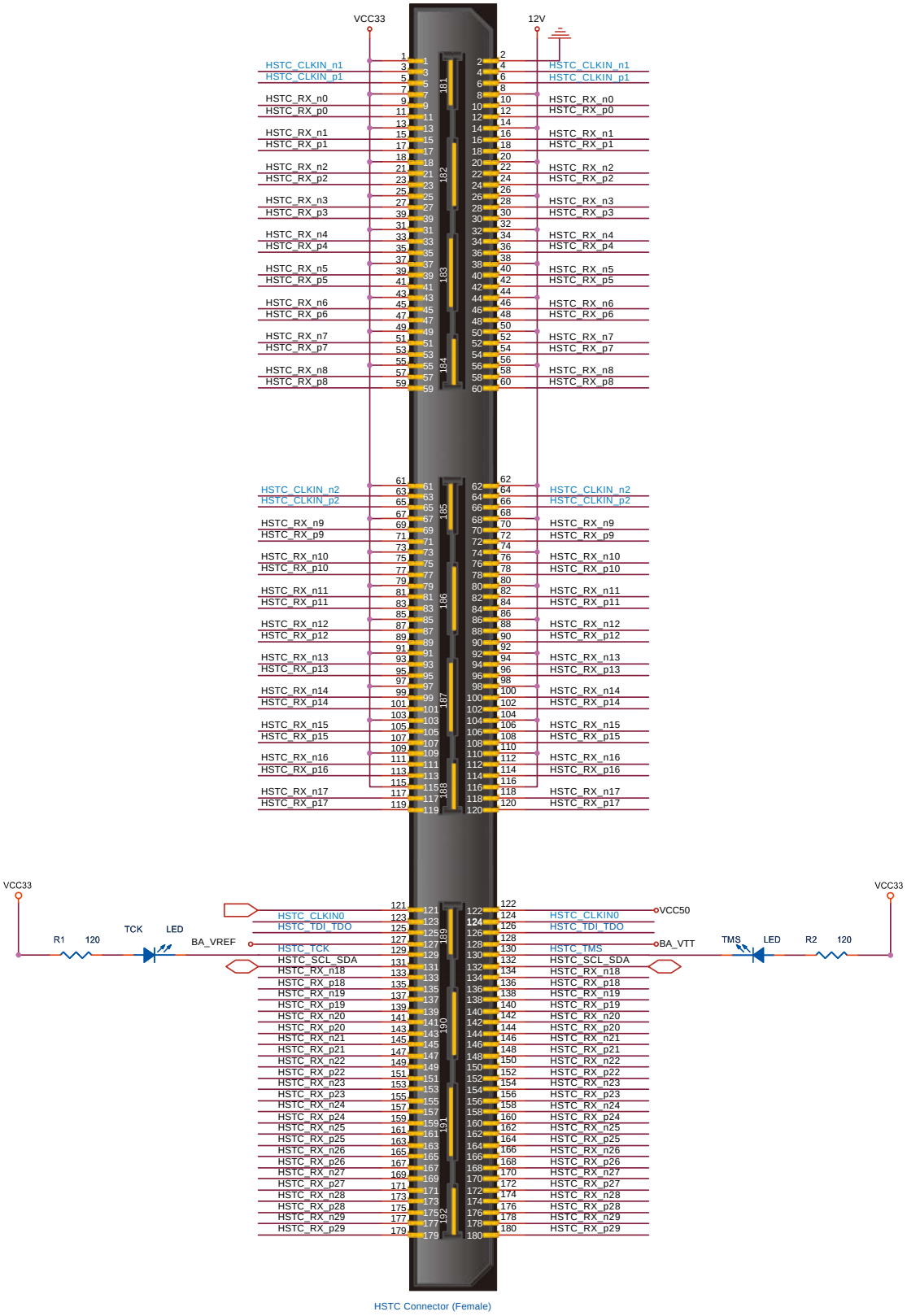

Figure 9. The schematic of the THDB_HLB

Figure 10. The top view of the THDB_HLB

Figure 11. The bottom view of the THDB_HLB

5. THDB_SFF

THDB_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 THDB_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 THDB_HMM adaptor card.

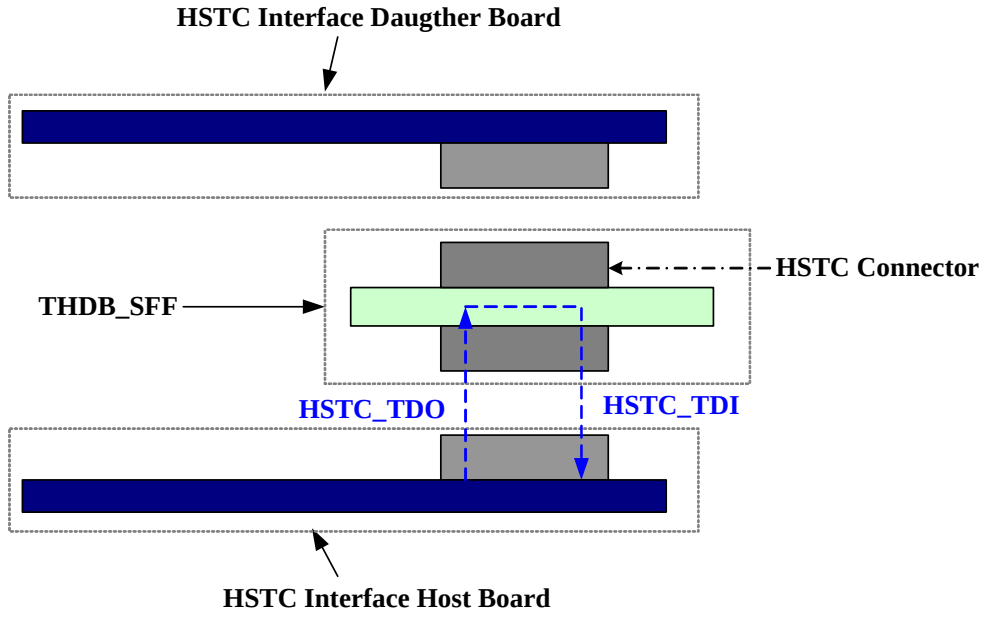

Figure 12. The signal flow for THDB_SFF adaptor card

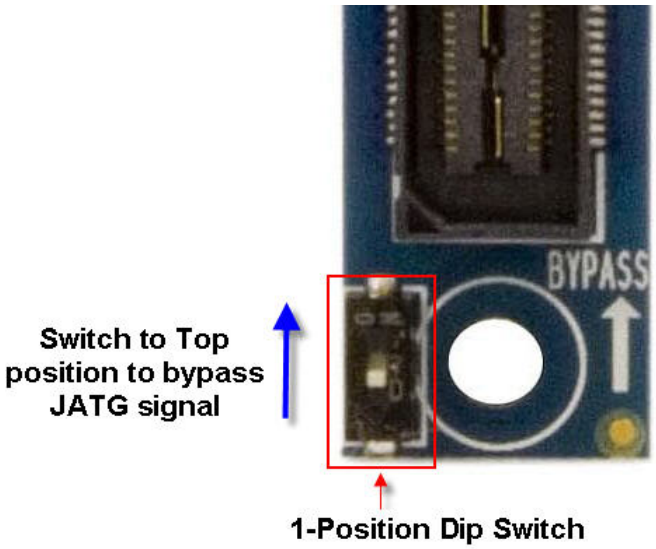

Figure 13. The one-position dip switch for JTAG interface control

Figure 14. The top view of the THDB_SFF

Figure 15. The bottom view of the THDB_SFF

6. THDB_CFF

THDB_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 THDB_CFF adaptor card and then connect with the clock pair HSTC_CLKIN_1 of HSTC interface board B (See Figure 16).

In addition, THDB_CFF has the same function as THDB_SFF adaptor card, it can bypass the JTGA interface signal via a one-position dip switch.Figure 17 and Figure 18 are the both sides of the THDB_HMM adaptor card.

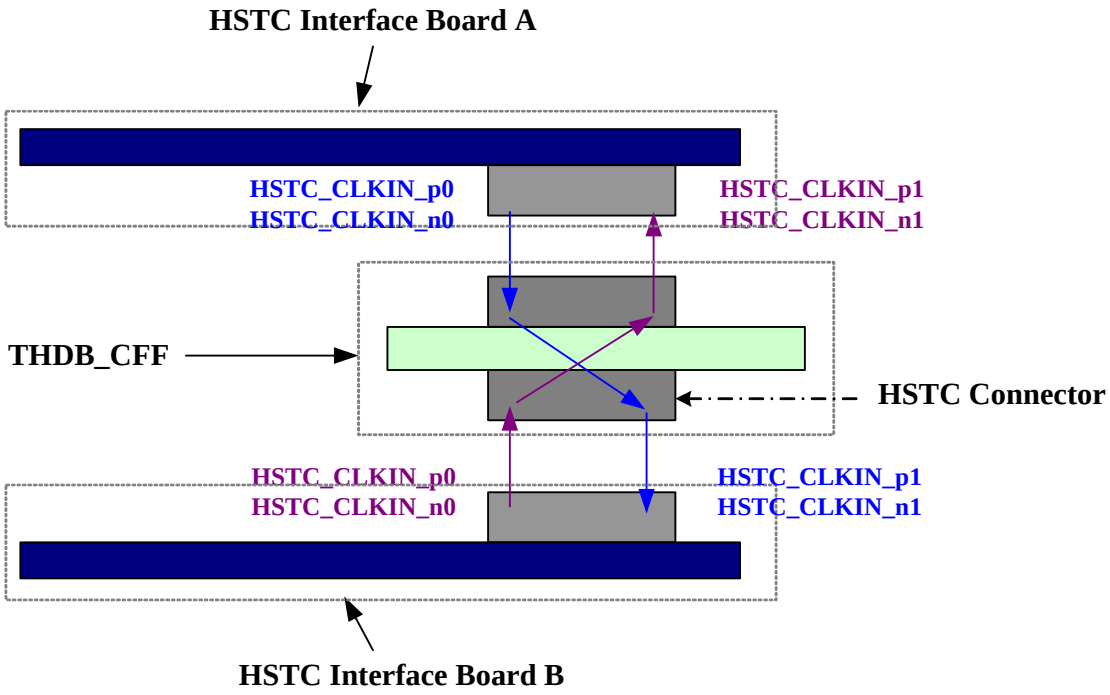

Figure 16. The signal flow for THDB_CFF adaptor card

Figure 17. The top view of the THDB_CFF

Figure 18. The bottom view of the THDB_CFF

Revision History

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