

XRM-HSSDC2A

High Speed Serial Adaptor Module

User Guide

Version 1.1

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EMI

This equipment generates, uses and can radiate electromagnetic energy. It may cause or be susceptible to electromagnetic interference if not installed and used with adequate EMI protection for specific applications

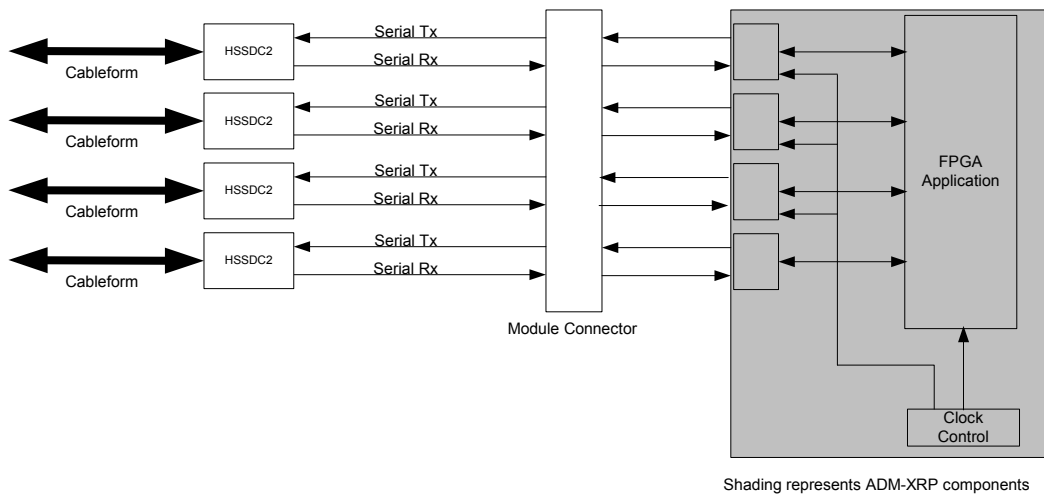
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PHOTO REQUIRED

1. Introduction

The XRM-HSSDC2A is a front-panel adapter card designed for use with Alpha Data's ADM-XP, ADM-XRC-4FX, ADM-XRC-5T1 and ADM-XRC-5T2 PMC cards. Industry standard HSSDC2 connectors are used to provide external connectivity to a number of the Multi-Gigabit Transceivers (MGTs) on the FPGA. The XRM-HSSDC2A allows easy connection of Alpha-Data FPGA cards to devices with compatible transceivers by means of simple, point-to-point cabling schemes implemented using off-the-shelf cables.



2. Installation

The XRM-HSSDC2A is designed to plug in to the front panel connector (SAMTEC QSH series) on Alpha-Data PMC cards. The retaining screws should be tightened to secure the XRM-HSSDC2A.

Note: This operation should not be performed while the PMC card is powered up.

2.1. Handling instructions

Observe precautions for preventing damage to components by electrostatic discharge. Personnel handling the board should take SSD precautions. Avoid flexing the board.

3. Specification

3.1. Connector

AMP part number 1761069-3 (replaces 1364532-3), keyed for Infiniband polarity.

Pin Number	Function
1	Gnd
2	RX +
3	RX -
4	Gnd
5	TX -
6	TX +
7	Gnd

3.2. Cableform

Typical cableform (1 metre length) - Amp1364561-2

4. Related Documents

ADM-XP User Manual

ADM-XRC-4FX User Manual

ADM-XRC-5T1 User Manual

ADM-XRC-5T2 User Manual

Infiniband Architecture Specification(Infiniband Trade Organisation,
www.infinibandta.org)

5. Design Examples

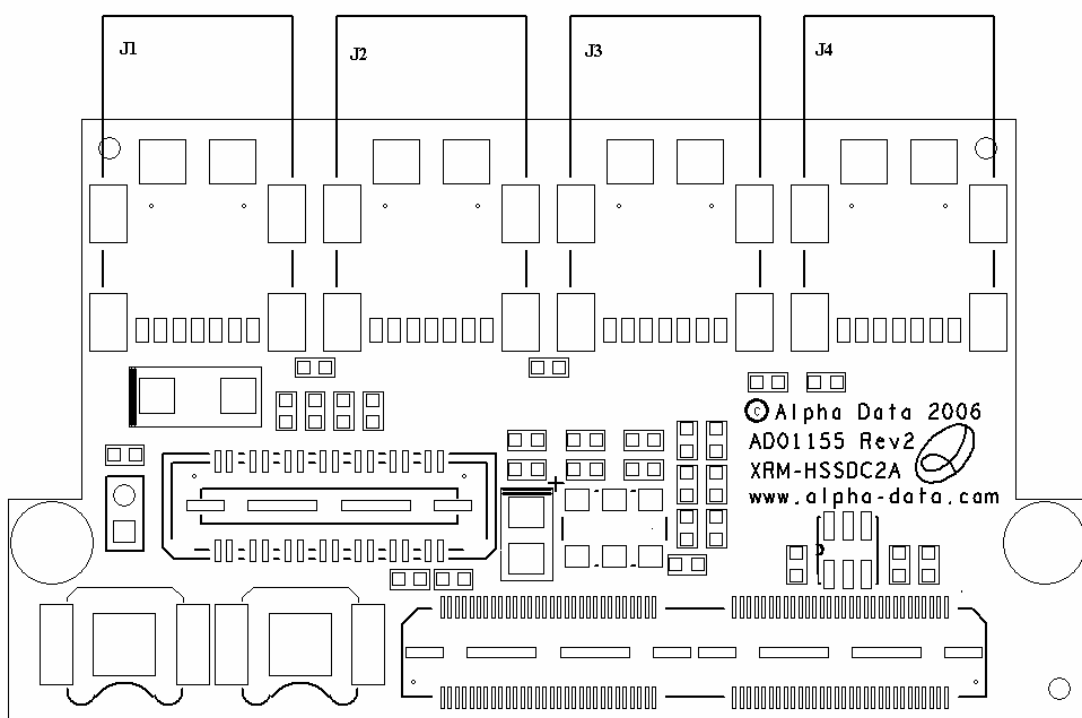
Example UCF, HDL files and Application software are available from Alpha Data for purchasers of this card.

6. Pinout

UCF Name	XP	4FX	5T1	5T2	Direction	Function
txp<0>	a40	a36	u2	aa2	Out	J1 – 6
txn<0>	a41	a37	t2	y2	Out	J1 – 5
rxp<0>	a39	c39	t1	y1	In	J1 – 2
rxn<0>	a38	d39	r1	w1	In	J1 – 3
txp<1>	a36	a34	m2	t2	Out	J2 – 6
txn<1>	a37	a35	n2	u2	Out	J2 – 5
rxp<1>	a35	a31	n1	u1	In	J2 – 2
rxn<1>	a37	a32	p1	v1	In	J2 – 3
txp<2>	a8	p39	l2	j2	Out	J3 – 6
txn<2>	a9	r39	k2	h2	Out	J3 – 5
rxp<2>	a7	u39	f2	h1	In	J3 – 2
rxn<2>	a6	v39	g2	g1	In	J3 – 3
txp<3>	a4	m39	f2	d2	Out	J4 – 6
txn<3>	a5	ne9	g2	e2	Out	J4 – 5
rxp<3>	a3	j39	g1	e1	In	J4 – 2
rxn<3>	a2	k39	h1	f1	In	J4 – 3
txp<4>	bb4	at39	e2	r2	Out	Loopback to Tx5
txn<4>	bb5	au39	d2	p2	Out	Loopback to Tx5
rxp<4>	bb3	aw37	d1	p1	In	Loopback from Tx5
rxn<4>	bb2	aw36	c1	n1	In	Loopback from Tx5
txp<5>	bb8	ap39	b4	k2	Out	Loopback to Tx4
txn<5>	bb9	ar39	b3	l2	Out	Loopback to Tx4
rxp<5>	bb7	al39	a3	l1	In	Loopback from Tx4
rxn<5>	bb6	am39	a2	m1	In	Loopback from Tx4
txp<6>	bb36	aw25	b4	b1	Out	Loopback to Tx7
txn<6>	bb37	aw24	b6	b2	Out	Loopback to Tx7
rxp<6>	bb35	aw22	a7	a2	In	Loopback from Tx7
rxn<6>	bb34	aw21	a7	a3	In	Loopback from Tx7
txp<7>	bb40	aw28	b10	b6	Out	Loopback to Tx6
txn<7>	bb41	aw27	b9	b5	Out	Loopback to Tx6
rxp<7>	bb39	aw31	a9	a5	In	Loopback from Tx6
rxn<7>	bb38	aw30	a8	a4	In	Loopback from Tx6
brefck_enab	l27	ac25	h20	l30		ah39 on rev3 (link configured)
brefck_in_p	g22	f19	h14	l16		Link configured for XP
brefck_in_n	f22	f18	h15	l15		Link configured for XP

Note that only TX0 to TX3 are accessible externally via J1-J4.

7. Board Layout



Revision History

Date	Revision	Nature of Change
Nov-2006	1.0	Initial draft
Dec-2008	1.1	Added 4FX,5T1 and 5T2 documentation