Toradex
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Colibri HDMI Adapter

Preliminary Datasheet

Revision History

Date	Doc. Rev.	Board Version	Changes
03-Dec-14	Rev. 1.0	V1.0	- Initial Release: Preliminary Version

Contents

1. Introduction

The Colibri HDMI Adapter is an add-on board for the **Colibri T20, T30 and iMX6** computer-on-module which provides HDMI interface. The Colibri HDMI Adapter connects directly to the connector X2 of the Colibri module using a 24-pin Flexible Flat Cable (FFC).

Please note that the Colibri HDMI Adapter is not compatible with the Colibri PXAxx and Colibri VFxx computer-on-modules.

Important note: ***End-user products providing a HDMI interface might be subject to HDMI royalty. Please refer the*** HDMI ***Adopters Terms*** ***for details.***

1.1. Reference Documents

For detailed technical information on the suitable computer modules, please refer the following sections:

1.1.1 Colibri Computer Modules

An overview of the Colibri product family:

https://www.toradex.com/products/colibri-arm-computer-modules

1.1.2 Toradex Developer Website

http://developer.toradex.com/

1.1.3 Colibri Module Migration and Compatibility Guide

http://docs.toradex.com/100188-colibri-migration-and-design-guide.pdf

http://docs.toradex.com/102216-colibri-compatibility-guide.xlsx

1.2. Features

1.2.1 Overview

The Colibri HDMI Adapter provides the following features:

- Connects directly to the HDMI FFC connector on the Colibri module.
- No external power supply required.

1.3. Hardware Architecture

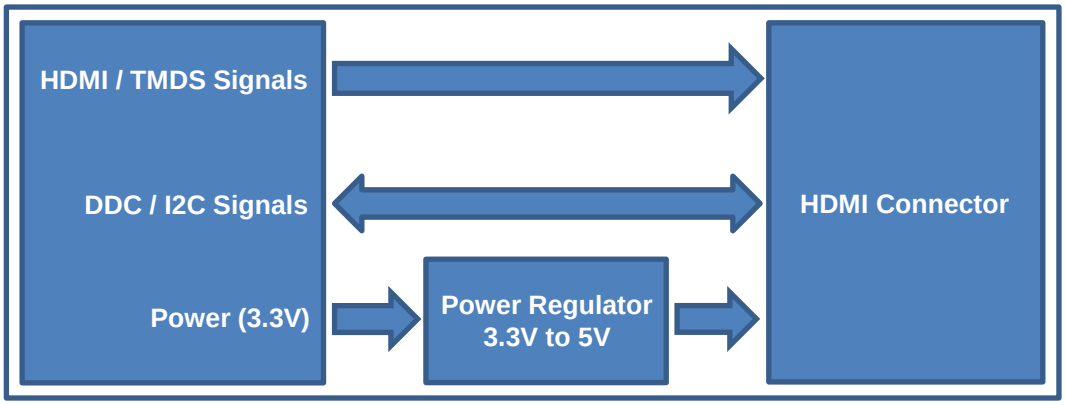

Fig.1 Colibri HDMI Adapter Hardware Architecture

1.4. Hardware Setup

The following block diagram represents the set-up required to use a Colibri HDMI Adapter.

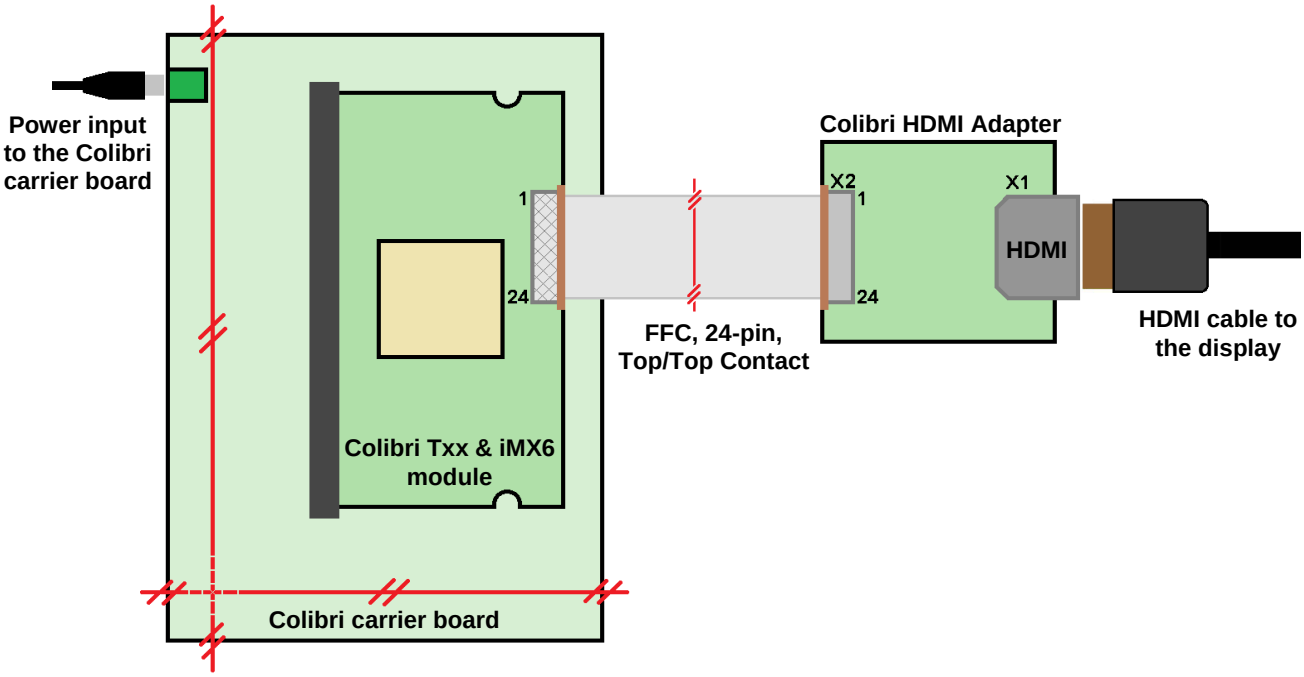

Fig.2 Block Diagram

Perform the following steps to use the Colibri HDMI Adapter:

1. Connect the Colibri HDMI Adapter to the Colibri module using a 24-pin FFC.
2. Insert a Colibri Module in the SODIMM socket X1 on the Colibri carrier board.
3. Connect the HDMI display with the Colibri HDMI Adapter using HDMI cable.
4. Power-on the Colibri carrier board.

2. Colibri HDMI Adapter Physical Drawings

2.1. Connector Locations

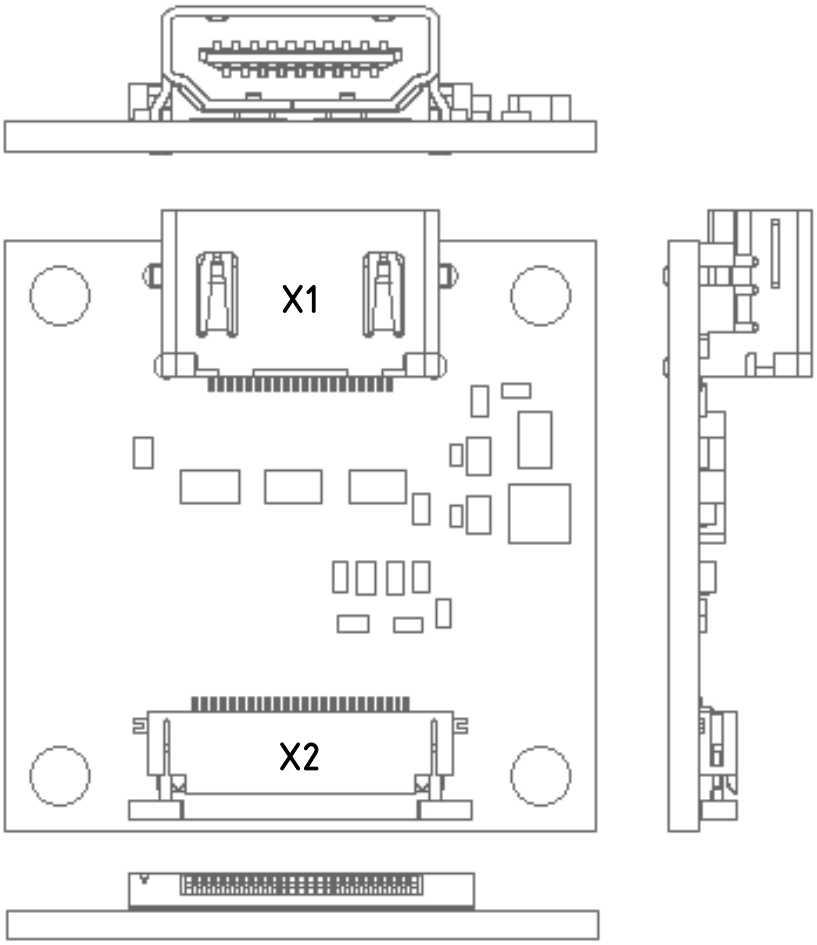

Fig.3 Colibri HDMI Adapter connectors – Top Side

Ref	Description	Remarks
X1	HDMI Connector	
X2	Colibri FFC Connector	Top contact, 24 Pins, Pitch 0.5mm

2.2. Mechanical Drawing

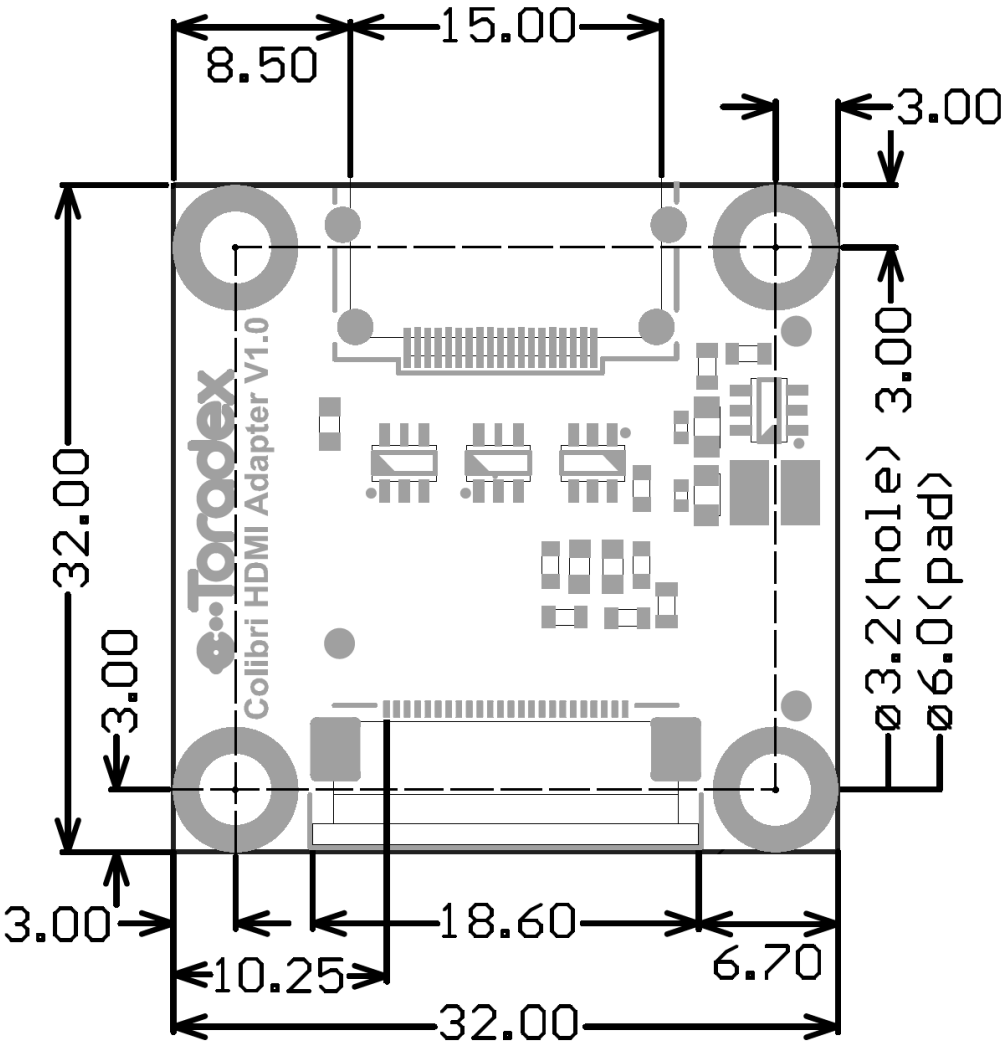

Fig.4 Colibri HDMI Adapter Mechanical Drawing – Top Side, All dimensions are in millimetres (mm)

3. Colibri HDMI Adapter Connectors

3.1. Colibri FFC Connector (X2)

Manufacturer: Molex - 52435-2471
Type: FFC connector, top side contact, 24 pin, pitch 0.5mm

Pin	Name	Description	I/O Type	Voltage	Pullup/Pulldown
1	GND				
2	TMDS_CLK_P	Transmit Clock Positive	O		
3	TMDS_CLK_N	Transmit Clock Negative	O		
4	GND				
5	TMDS_DATA0_P	Data Lane 0 Positive	O		
	TMDS_DATA0_N	Data Lane 0 Negative	O		
7	GND				
8	TMDS_DATA1_P	Data Lane 1 Positive	O		
9	TMDS_DATA1_N	Data Lane 1 Negative	O		
10	GND				
11	TMDS_DATA2_P	Data Lane 2 Positive	O		
12	TMDS_DATA2_N	Data Lane 2 Negative	O		
13	3V3_DDC_OUT	Power		+3.3V	
14	HOTPLUG_DETECT_T	Hot Plug Detection, 5V Tolerant	I		
15	DDC_SCL_T	DDC Serial Clock, 5V Tolerant	O		100K to +5V
16	DDC_SDA_T	DDC Serial Data, 5V Tolerant	I/O		100K to +5V
17	GND	Ground			
18		Not connected			
19	GND	Ground			
20		Not connected			
21	GND	Ground			
22		Not connected			
23		Not connected			
24		Not connected			

3.2. HDMI Connector (X1)

Manufacturer: FCI - 10029449-111RLF
Type: HDMI Connector Receptacle

Pin	Name	Description	I/O Type	Voltage	Pullup/Pulldown
1	TMDS_DATA2_P	Data Lane 2 Positive	O		
2	GND				
3	TMDS_DATA2_N	Data Lane 2 Negative	O		
4	TMDS_DATA1_P	Data Lane 1 Positive	O		
5	GND				
	TMDS_DATA1_N	Data Lane 1 Negative	O		
7	TMDS_DATA0_P	Data Lane 0 Positive	O		
8	GND				
9	TMDS_DATA0_N	Data Lane 0 Negative	O		
10	TMDS_CLK_P	Transmit Clock Positive	O		
11	GND				
12	TMDS_CLK_N	Transmit Clock Negative	O		
13	CEC	Not connected			
14	HEC	Not connected			
15	HDMI_I2C_SCL	DDC Serial Clock	O		
16	HDMI_I2C_SDA	DDC Serial Data	I/O		
17	GND	Ground			
18	5V_HDMI	Power		+5V	
19	HOTPLUG_DETECT	Hot Plug Detection	I		
S1	SHIELD				
S2	SHIELD				
S3	SHIELD				
S4	SHIELD				

4. PCB Revision

Revision history of the Colibri HDMI Adapter is as follows:

- Colibri HDMI Adapter V1.0: Initial Design

5. Product Compliance

Up-to-date information about product compliance such as RoHS, CE, UL-94, Conflict Mineral, REACH etc. can be found on our website at: http://www.toradex.com/support/product-compliance