



# Coral Camera Connector Daughter Card User Guide

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**CORAL-CAM-DC-UG-v1.0**

**July 2023**

**[www.efinixinc.com](http://www.efinixinc.com)**

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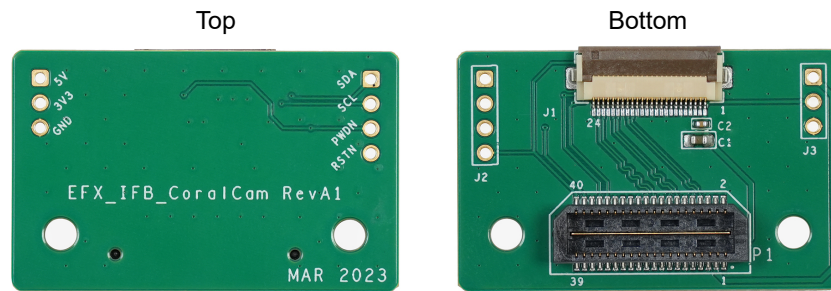
# Introduction

The Coral Camera Connector Daughter Card (part number: EFX\_CSI2-CAM-CORAL\_DC) bridges between an Efinix development board and a Coral camera module. The daughter card connects to the camera using a 24-pin flat cable.



**Learn more:** Refer to the [Coral Camera Connector Daughter Card Schematics and BOM](#) for the part details and schematics.

Figure 1: Coral Camera Connector Daughter Card



**Warning:** The board can be damaged without proper anti-static handling.

## Supported Development Boards

You can use the Coral Camera Connector Daughter Card with:

- Titanium Ti60 F225 Development Board
- Titanium Ti180 M484 Development Board
- Titanium Ti180 J484 Development Board

## Features

- Bridges 40-pin MIPI CSI-2 interface and control signals on the development board to a 24-pin interface
- Pin to pin compatible with Coral camera modules using a 24-pin flat cable
- Supports up to 2.5 Gbps on MIPI interface (depending on the development board used)
- Power supplied from the development board; no external power required



**Note:** For technical support using Coral camera modules, refer to their web site at <https://coral.ai/>.

## What's in the Box?

The Coral Camera Connector Daughter Card includes:

- Coral Camera Connector Daughter Card
- 2 standoffs
- 2 screws
- 2 nuts

# Headers

*Table 1: Coral Camera Connector Daughter Card Headers*

Reference Designator	Description
P1	40-pin QTE connector bringing MIPI signals, and power from the development board.
J1	24-pin flat cable receptacle for Coral camera modules.

## Header P1 (QTE Connector)

P1 is a 40-pin QTE connector to connect the Coral Camera Connector Daughter Card to the QSE connector on the development board.

*Table 2: P1 Pin Assignments*

Pin Number	Signal Name	Description	Pin Number	Signal Name	Description
1	3V3	3.3 V supply	2	N.C.	No connect
3	5V	5.0 V supply	4	N.C.	No connect
5	GND	Ground	6	GND	Ground
7	N.C.	No connect	8	MIPI_CSI_D1_P	Differential MIPI lane 1
9	N.C.	No connect	10	MIPI_CSI_D1_N	Differential MIPI lane 1
11	GND	Ground	12	GND	Ground
13	N.C.	No connect	14	MIPI_CLK_P	MIPI clock lane
15	N.C.	No connect	16	MIPI_CLK_N	MIPI clock lane
17	GND	Ground	18	GND	Ground
19	N.C.	No connect	20	MIPI_CSI_D0_P	Differential MIPI lane 0
21	N.C.	No connect	22	MIPI_CSI_D0_N	Differential MIPI lane 0
23	GND	Ground	24	GND	Ground
25	N.C.	No connect	26	N.C.	No connect
27	N.C.	No connect	28	N.C.	No connect
29	GND	Ground	30	GND	Ground
31	N.C.	No connect	32	CAM_I2C_SCL	I <sup>2</sup> C control pin
33	N.C.	No connect	34	CAM_I2C_SDA	I <sup>2</sup> C control pin
35	GND	Ground	36	GND	Ground
37	N.C.	No connect	38	CAM_PWDN	Camera power down
39	N.C.	No connect	40	CAM_RSTN	Camera reset

## Header J1 (Coral Camera Connector)

J1 is a 24-pin flexible flat cable receptacle for connecting to a Coral camera module.

*Table 3: J1 Pin Assignments*

Pin Number	Pin Name	Description
1	3V3	3.3 V power supply
2	CAM_RSTN	Camera reset
3	N.C.	No connect
4	CAM_I2C_SDA	I <sup>2</sup> C control
5	CAM_I2C_SCL	I <sup>2</sup> C control
6	GND	Ground
7	N.C.	No connect
8	CAM_PWDN	Camera power down
9	GND	Ground
10	N.C.	No connect
11	N.C.	No connect
12	GND	Ground
13	N.C.	No connect
14	N.C.	No connect
15	GND	Ground
16	MIPI_CSI_D1_P	Differential MIPI lane 1
17	MIPI_CSI_D1_N	Differential MIPI lane 1
18	GND	Ground
19	MIPI_CLK_P	MIPI clock lane
20	MIPI_CLK_N	MIPI clock lane
21	GND	Ground
22	MIPI_CSI_D0_P	Differential MIPI lane 0
23	MIPI_CSI_D0_N	Differential MIPI lane 0
24	GND	Ground

## Installing Standoffs

Before using the board, attach the standoffs with the screws (M3 size) provided in the kit.



**Warning:** You can damage the board if you over tighten the screws. Tighten all screws to a torque between  $4 \pm 0.5$  kgf/cm and  $5 \pm 0.5$  kgf/cm.

# Revision History

*Table 4: Revision History*

Date	Version	Description
July 2023	1.0	Initial release.