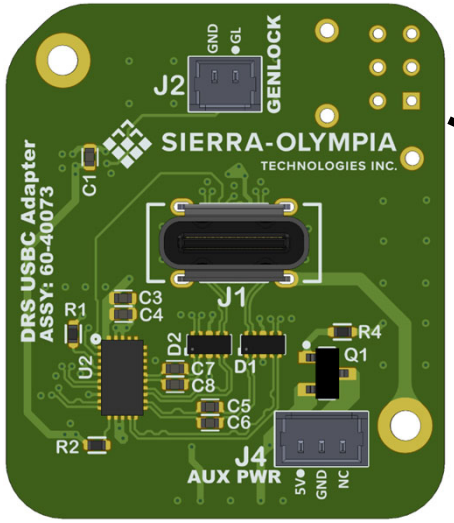
NOTES:

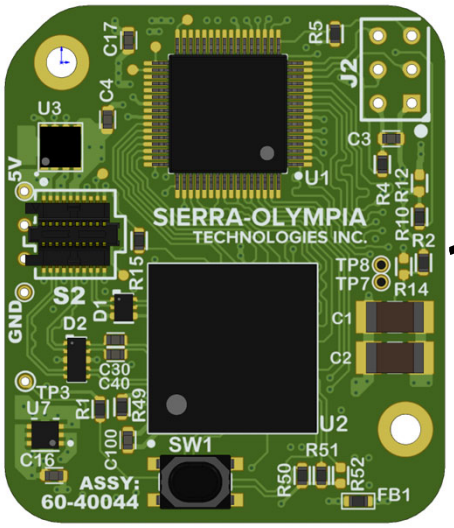
1. LEGEND: ► Position 1 indicator
2. Mating connectors, pinouts, and signal names on Sheet 3

REVISIONS				
REV	DESCRIPTION	ECO	DATE	Eng.
E	Add Note to Aux Power, no reverse polarity protection.	1783	2024-07-24	GO
F	Updated with board revisions, Rev B of 60-40073 introduced reverse polarity protection.	1789	2024-08-26	GO

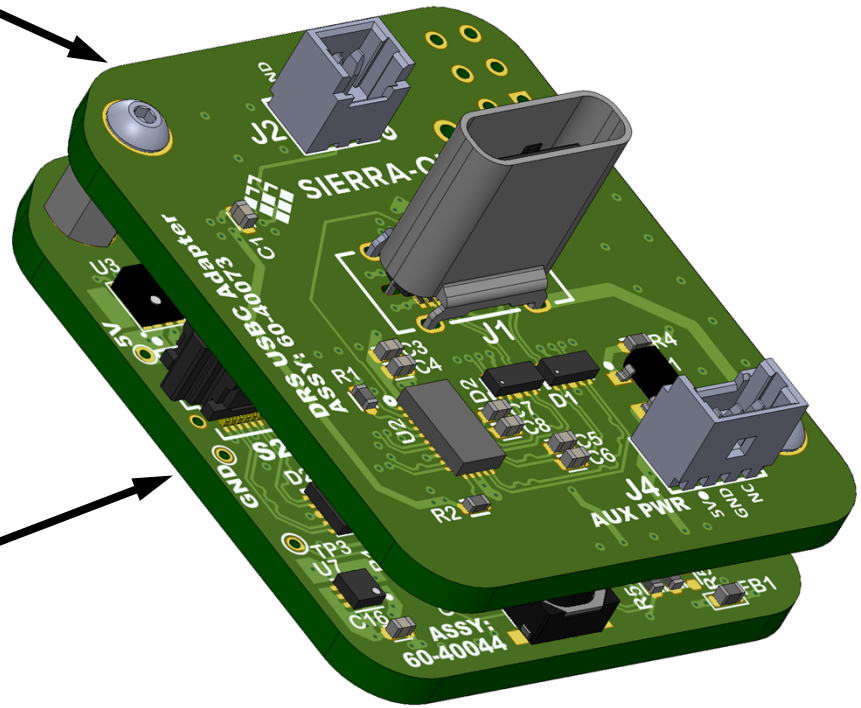
SOTI USBC Dual Power Adapter Board
(upper PCA in stack)



SOTI OEM USB Base Board
(lower PCA in stack)



SOTI USB-C Adapter
assembled with
SOTI OEM USB Base Board



SIERRA-OLYMPIA TECHNOLOGIES INC.

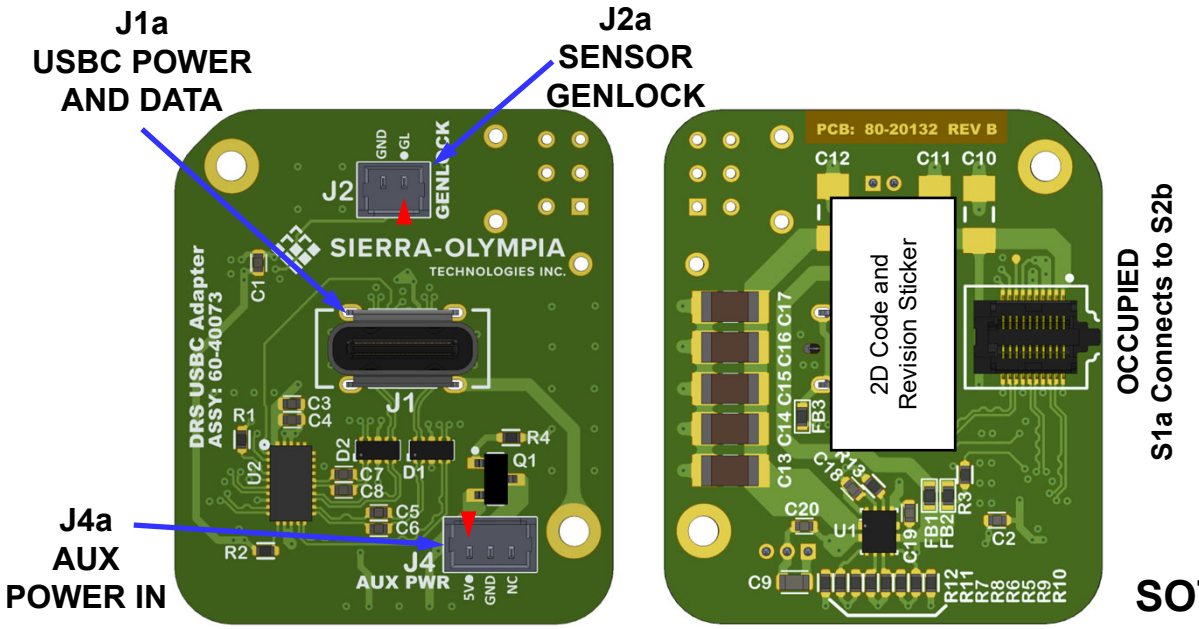
S-D11285

Electrical ICD, DRS USB

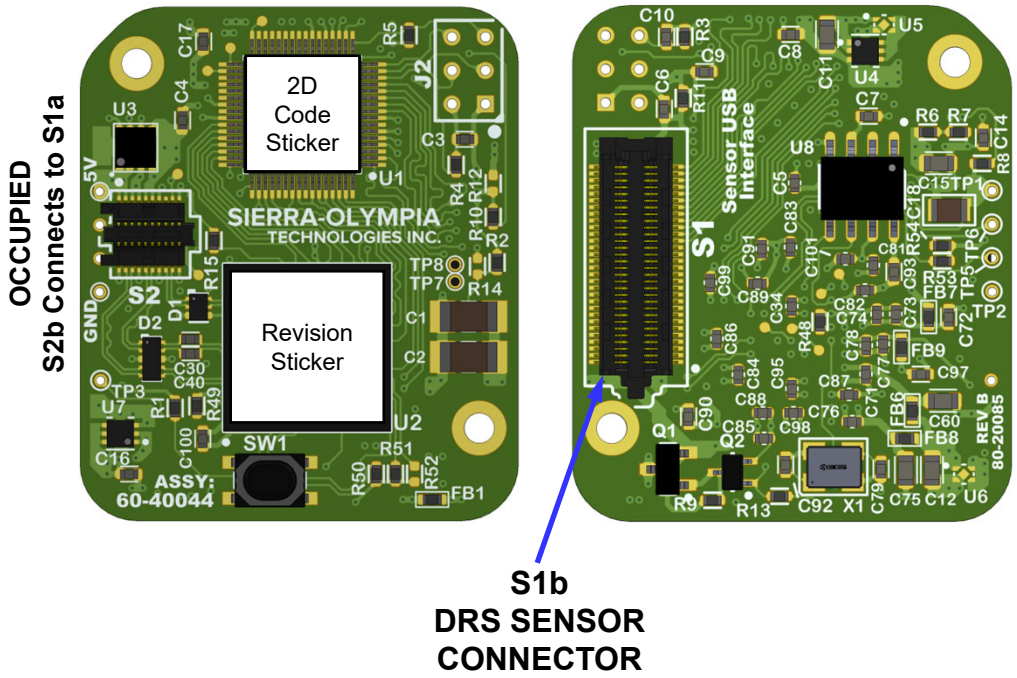
Product Export Classification Control Number (ECCN): 6A003.b.4.b. This document does not contain export-controlled technology.

Size: A | Revision Date: 2024-08-26 | Document Rev: F

NTS | Drawn: W. Kettle | SHEET 1 OF 4



SOTI USBC Dual Power Adapter Board



SOTI OEM USB Base Board

SIERRA-OLYMPIA TECHNOLOGIES INC.

S-D11285

Electrical ICD, DRS USB

Product Export Classification Control Number (ECCN): 6A003.b.4.b. This document does not contain export-controlled technology.

Size:	Revision Date:	Document Rev:
A	2024-08-26	F

NTS | Drawn: W. Kettle | SHEET 2 OF 4

NOTES:

3. For connector location diagram, see “Mechanical ICD, Tamarisk USB” S-D11319
4. Exceeding Max Ratings could cause damage to components.

J1a - USBC POWER AND DATA

Output Connector: Molex 2047110001 (Vertical USBC)
Mating connector: Standard USBC

USB2 and USB3 ports might not supply the required current for all sensor models. In this case, use J4a to power the sensor.
Input Power ratings as defined in J4a Table.

Pin definitions per USBC standard. Sideband channels n/c.

J2a - SENSOR GENLOCK

Molex Picoblade 2-position, 1.25 mm pitch
Mating connector housing: Molex 0510210200
Connector terminals: Molex 500798001 (26-28 AWG)

See DRS ICD for usage of Genlock signal.

Position	Name	Max Rating
1	Genlock I/O - 1.8V Logic	-0.3V - 2.25V
2	Ground	-

J4a - AUX POWER IN

Molex Picoblade 2-position, 1.25 mm pitch connector
Mating connector housing: Molex 0510210300
Connector terminals: Molex 500798001 (26-28 AWG)

USBC adapter includes over-voltage protection above 5.6V.
Power can be supplied through J1a or J4a.
If both are connected at the same time it will default to using AUX power. This will not affect data on J1a.
AUX power and USBC power are not hot-swappable (i.e. removing AUX power while USBC plugged in will cause camera to reset).

NOTE: See Page 4 regarding Reverse Polarity Protection on Aux Power Input.

Sensor Model	Average Power	Peak Power (Shutter)
Tenum 1280	2.5W typical	7.5W typical
Tenum 640	2.0W typical	6.5W typical
Tamarisk 640	2.1W typical	3.7W typical
Tamarisk 320	1.5W typical	3.9W typical

Position	Name	Max Rating
1	+5.0 VDC Input Power	4.8 - 5.6 VDC 1.7A Max
2	Ground	-
3	No Connect	-

SOTI USBC Dual Power Adapter Board

SOTI OEM USB Base Board

S1b - DRS SENSOR CONNECTOR

Sensor Interface (60-pin, 0.4mm pitch):
Samtec SS4-30-3.50-L-D-K-TR

Connects to J2 on DRS Base Board.
See DRS ICD for pinout.

SIERRA-OLYMPIA TECHNOLOGIES INC.

S-D11285
Electrical ICD, DRS USB

Product Export Classification Control Number (ECCN): 6A003.b.4.b. This document does not contain export-controlled technology.

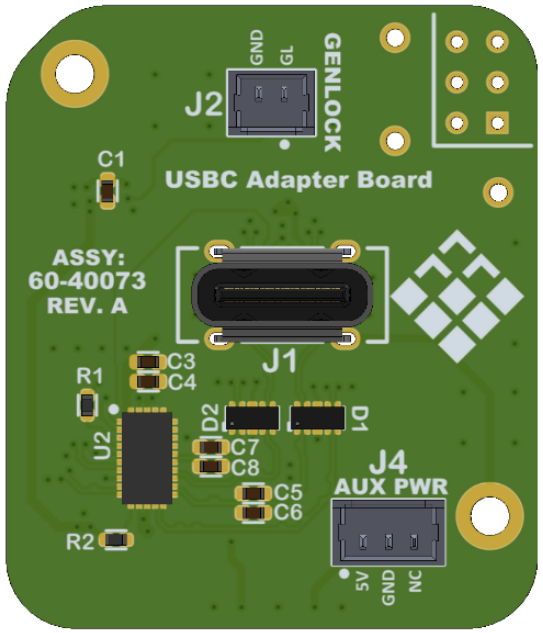
Size:	Revision Date:	Document Rev:
A	2024-08-26	F

NTS | Drawn: W. Kettle | SHEET 3 OF 4

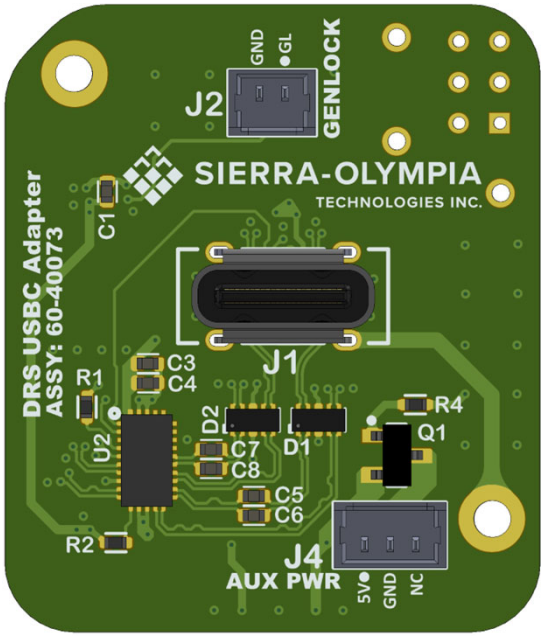
SOTI USBC Dual Power Adapter Board Revisions

Images of both Revision A (left) and Revision B (right) are shown below for easy identification.

Revision A of the SOTI USBC Dual Power Adapter Board did not include Reverse Polarity Protection on J4 Aux Power Input. Applying reverse polarity on Aux Power Input with RevA boards will short power supply with a clamp diode within U1, drastically increasing the heat generated by U1 on the bottom side of the board. Testing has shown shorting a 3A current limited supply for a brief duration does not cause permanent damage to the board, but it is still not recommended.



Revision B of the SOTI USBC Dual Power Adapter Board introduced reverse polarity protection on J4 Aux Power Input. Applying reverse polarity on Aux Power Input with this revision (or later) will result in no current draw on Aux Power Input, and no damage to any components on the board.



SIERRA-OLYMPIA TECHNOLOGIES INC.

S-D11285

Electrical ICD, DRS USB

Product Export Classification Control Number (ECCN): 6A003.b.4.b. This document does not contain export-controlled technology.

Size:	Revision Date:	Document Rev:
A	2024-08-26	F

NTS	Drawn: W. Kettle	SHEET 4 OF 4