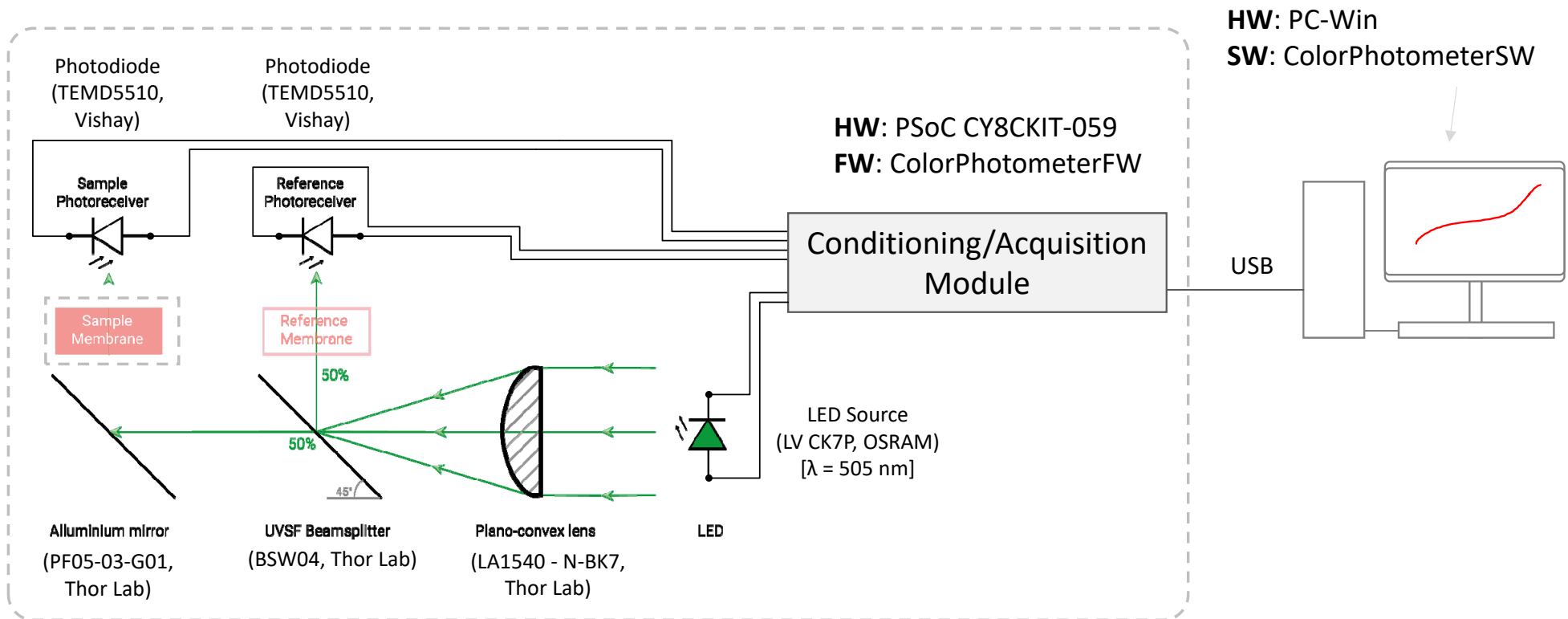


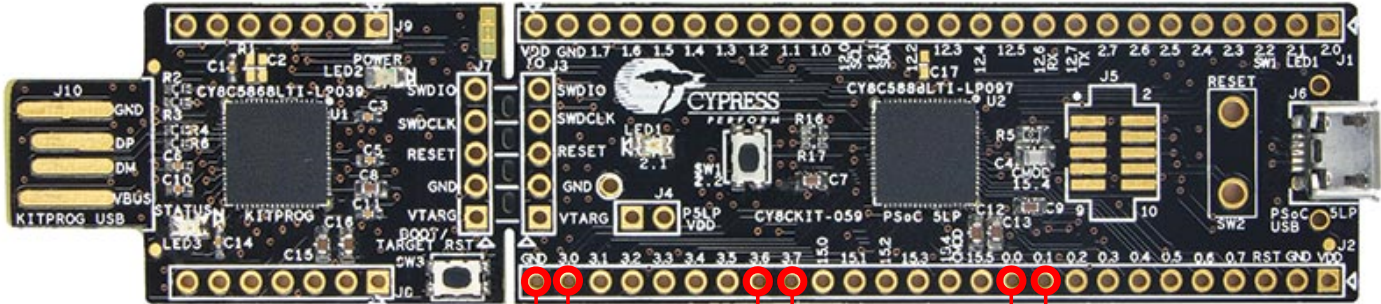
Overall LED/photodiode colorimetric optical devices



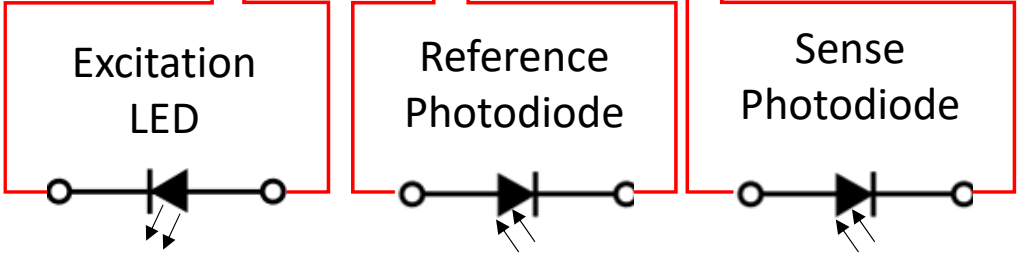
Dedicated case/enclosure was built by 3D printing (*stl* files available: "Case_bottom.STL"; "Case_center.STL"; "Case_top.STL" in "CaseColorPhotometer.zip")

Electronic Connections

USB Connection to PC
(Power and Data)

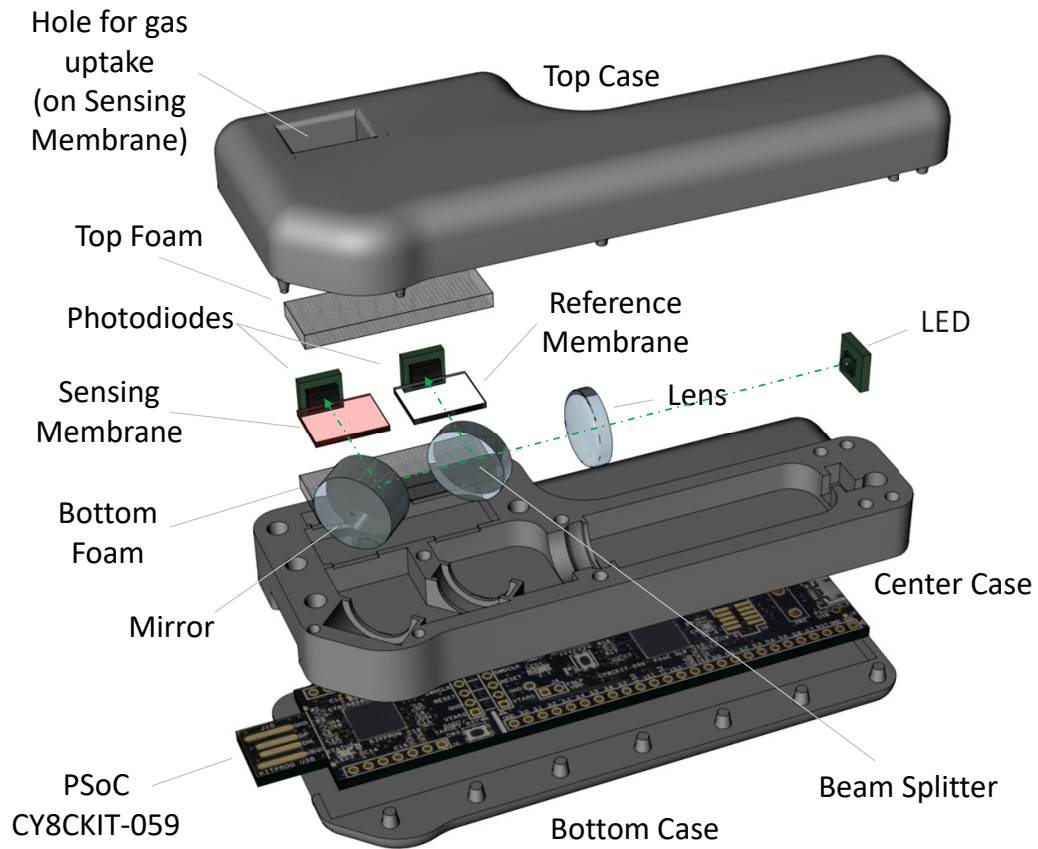


PSoC CY8CKIT-059

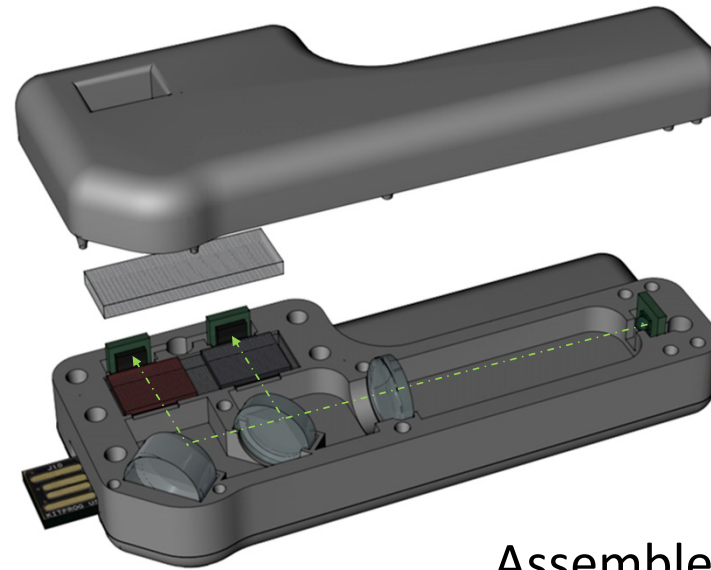


Case/enclosure - Hardware and Assembly

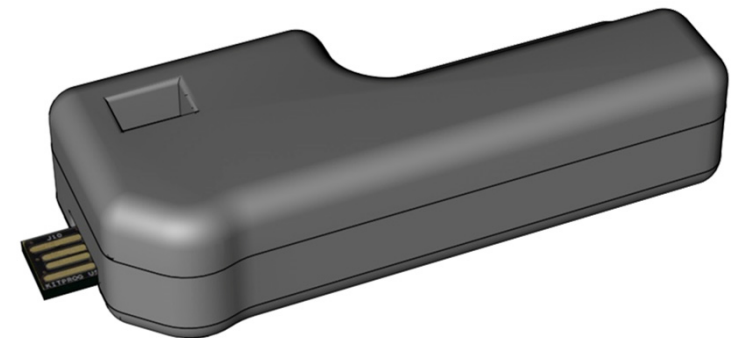
Exploded View



Semi-Assembled View

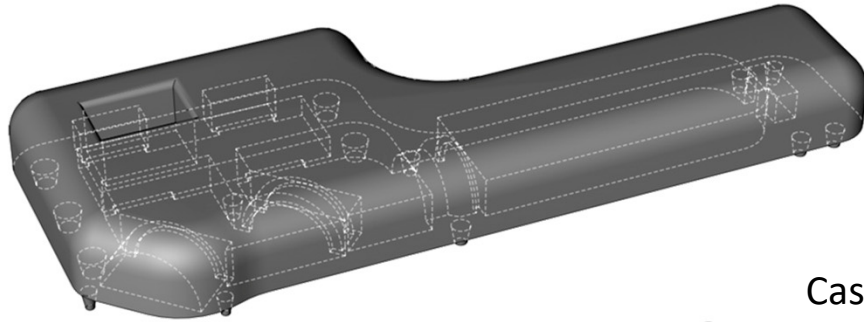


Assembled View

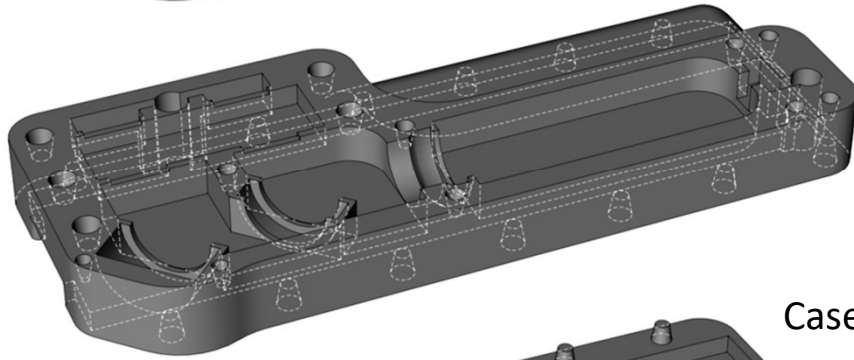


Case/enclosure - Hardware and Assembly

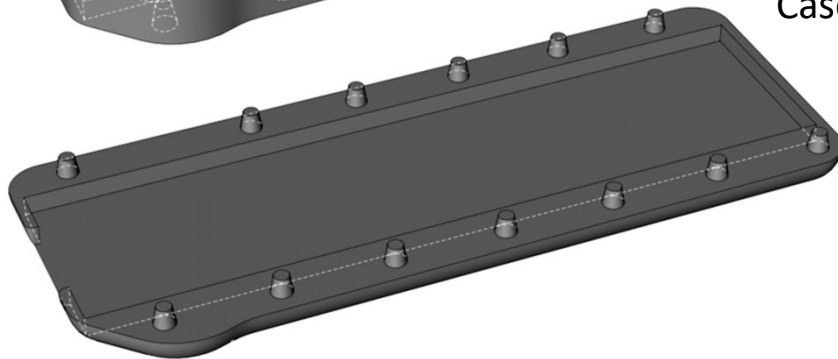
Case_top.STL



Case_center.STL



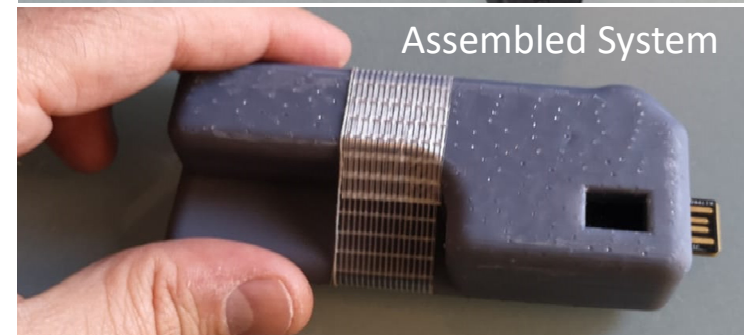
Case_bottom.STL



Semi-Assembled System



Assembled System



PC ColorPhotometer Software Overview

The screenshot shows the 'Photometer' software window. On the left, there are callout boxes pointing to various UI elements: 'USB Virtual Comm Selection' points to a dropdown menu; 'Start Acquisition', 'Stop Acquisition', and 'Start/Stop Recording' point to 'Start', 'Stop', and 'REC' buttons respectively; 'Graph parameters setting' points to the 'Graph Parameters' section; 'Note to be saved on recorded file' points to the 'Note' text area; and 'Debug Window' points to the 'Debug' text area. On the right, a legend for the 'Photodiode Output Graph' lists: 'Ch0 - Ref. Photodiode (V = 0,0000)' (red), 'Ch1 - Sens. Photodiode (V = 0,0000)' (blue), 'Trasmittance (T = 0,0000)' (green), and 'Absorbance (Abs = 0,0000)' (orange). The 'Timing Parameters' section shows 'Point per Sample' at 2500, 'Sample Rate (Hz)' at 4,00, and 'Sampling' at 250 ms and 4 Hz. The 'Graph Parameters' section shows 'Time Chart Span (s)' at 5, 'Upper Limit (V)' at 2,500, and 'Lower Limit (V)' at 0,000. A callout box at the top right notes 'Acquisition parameters setting (sample rate HW limit checked)' pointing to the sample rate field.

USB Virtual Comm Selection

Start Acquisition
Stop Acquisition
Start/Stop Recording

Graph parameters setting

Note to be saved on recorded file

Debug Window

Acquisition parameters setting (sample rate HW limit checked)

Photometer

Start
Stop
REC

Timing Parameters

Point per Sample: 2500
Sample Rate (Hz): 4,00
Sampling: 250 ms 4 Hz

Graph Parameters

Time Chart Span (s): 5 Full Span
Upper Limit (V): 2,500 Autoscale
Lower Limit (V): 0,000

Note

Debug

Photodiode Output Graph
(selectable Channels Voltage,
Absorbance or Transmittance)

- Ch0 - Ref. Photodiode (V = 0,0000)
- Ch1 - Sens. Photodiode (V = 0,0000)
- Trasmittance (T = 0,0000)
- Absorbance (Abs = 0,0000)