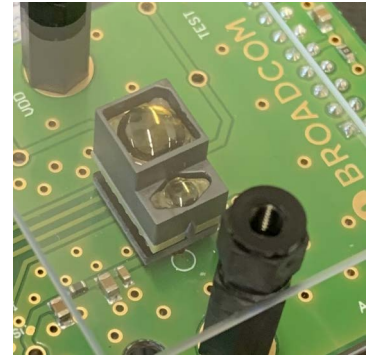# AFBR-S50

Cover Glass Calibration: Brief Guide

This document is a short guide on the AFBR-S50 cover glass calibration procedure. For detailed information, read the full crosstalk application note, *AFBR-S50-XTK: Crosstalk Guide*.

**Calibration Procedure:**

1. Check if the cover glass characteristics and mechanical design meet the following specifications.

Parameter	Value	Comment
Transmission (%)	> 90[a]	@wavelength
Max. Thickness (mm)	≤ 2	—
Distance to Cover Material (mm)	≤ 2	Upper housing edge as reference

   a. A lower value might also be possible if you do not need the maximum sensor specification.

2. Perform a test measurement with your target cover glass using the maximum target object distance and the lowest expected object remission by your application.
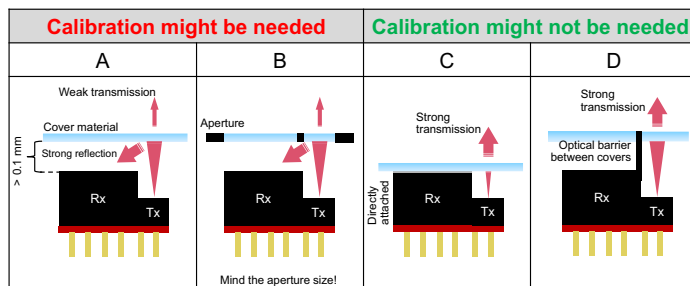
NOTE: If the performance is satisfactory, no calibration is needed and you are done! Otherwise, proceed with calibrating the cover glass.

3. Calibrate the cover glass by using our step-by-step guide via a terminal:

  a. Go to https://github.com/Broadcom/AFBR-S50-API/ and clone or download the repository.

  b. Import the project into your IDE and enable the crosstalk calibration by modifying the preprocessor definition `RUN XTALK_CALIBRATION` from `0` to `1` in the `example.h`.

  c. Start a terminal application (such as Putty or Termite) and establish a serial connection to the MCU controlling the AFBR-S50 sensor.

NOTE: With the API ported to a custom hardware (MCU), a complete porting of a UART (Tx and Rx) interface is necessary.

  d. Follow the instructions from the prompt.

For further information and FAQs on the crosstalk calibration procedure, download the application note at https://docs.broadcom.com/doc/AFBR-S50-XTK-Crosstalk-Guide.

BROADCOM®