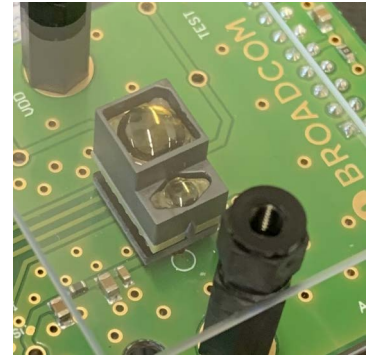


# AFBR-S50

## 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](#).

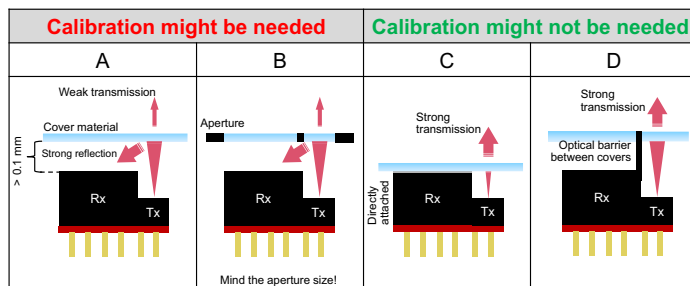
### Calibration Procedure:

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

Parameter	Value	Comment
Transmission (%)	$> 90^a$	@wavelength
Max. Thickness (mm)	$\leq 2$	—
Distance to Cover Material (mm)	$\leq 2$	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.

```

AFBR-S50 Crosstalk Calibration

##### AFBR-S50 API - Interactive Xtalk Calibration Guide #####
##### This interactive procedure guides you through the steps needed
##### to compensate the application specific xtalk. A dominant source of
##### xtalk could be the usage of cover glasses. Please read application
##### note AFBR-S50-XTK-AN1xx to get more information. #####

#####
-----
Enter 's' to start the step-by-step xtalk calibration guide      - or -
Enter 'c' to run a continuous measurement showing binned results - or -
Enter 'x' to read the xtalk calibration table from memory       - or -
Enter 'o' to get an overview about other commands.
  
```

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>.

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