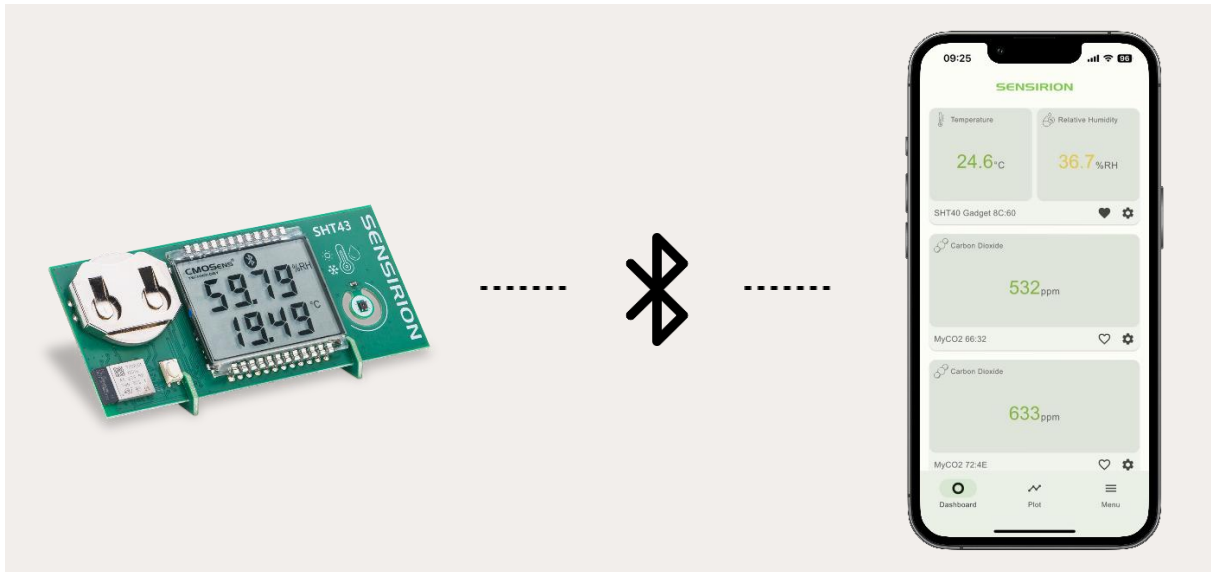


SHT43 DemoBoard User Guide

Sensirion's Open-Source Demonstrator for SHT43 Sensors



- SHT43 Humidity and Temperature sensor
- LCD Screen to visualize Humidity and Temperature
- Bluetooth Low Energy (BLE) connectivity to iOS and Android smartphones
- Free iOS and Android app available
- Data logging and export capabilities
- Source code and hardware files available on GitHub

Introduction

The SHT43 DemoBoard is a humidity and temperature monitor which demonstrates the new SHT43 sensor by Sensirion with an ISO Certificate. The built-in LCD shows the temperature and humidity, and the device also incorporates a Bluetooth Low Energy module allowing it to communicate with Bluetooth Low Energy (BLE) capable devices like smartphones. Power is supplied via an on-board coin cell battery.

SHT4x Demonstrator Content



Download MyAmbience App for free



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1 Quick Start Guide

1. Getting Started

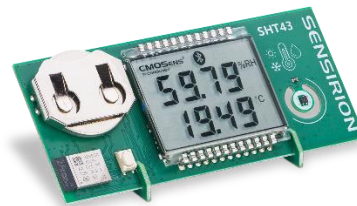
- Remove the plastic pull tab to power the SHT43 DemoBoard for the first time.

2. Standalone Operation

- Humidity and Temperature information is shown on the integrated LCD screen.
- By default, the temperature is shown in degrees Celsius.

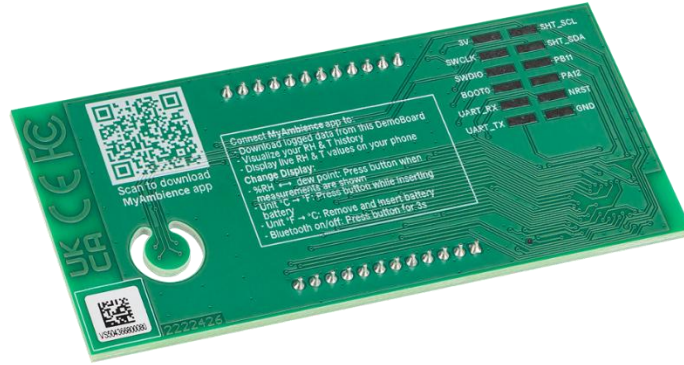
3. Operation with MyAmbience App

- Download iOS or Android version of the MyAmbience app on your smartphone.
- Open the App to automatically see nearby Sensirion gadgets on your smartphone.
- Once a connection is established, the exact Temperature and Relative Humidity values as well as the history can be read out via the app.



2 Standard Operations

2.1 Instructions



The SHT43 DemoBoard has the ability to display multiple values on its LCD and allows you to change the system configuration by utilizing the button on the bottom left of the product. Please follow the instructions shown below:

Instruction	Outcome
Single button press	Change between Relative Humidity and Dew Point
Double button press	Toggle temperature unit (Celsius/Fahrenheit)
Long button press (more than 3 sec)	Toggle Bluetooth functionality (on/off)

2.2 Operating in Standalone Mode

This is the default operating mode. The measured Temperature and Relative Humidity or Dew Point (see instructions above) are shown on the integrated LCD Screen.

2.3 Connecting to a Bluetooth Device

Bluetooth mode is enabled by default. Please see the instructions section on how to toggle Bluetooth on/off. To connect the SHT43 DemoBoard to a smartphone, the smartphone must have the MyAmbience app installed, and Bluetooth enabled.

For Android devices, location permission needs to be granted to the app for it to work, although the user location will not be used at any time. The app will automatically connect to surrounding Sensirion Gadgets with Bluetooth enabled.

The MyAmbience app can be downloaded from the corresponding app stores:



<https://play.google.com/store/apps/details?id=com.sensirion.myam>



<https://apps.apple.com/app/sensirion-myambience/id1529131572>

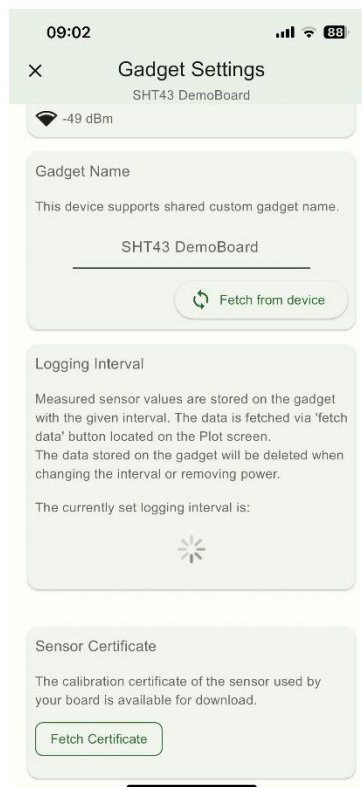
For specific instructions regarding myAmbience usage please visit the [online manual of the app](#).

2.4 Downloading an SHT43 ISO certificate

The SHT43 Humidity and Temperature sensor is ISO17025 certified and Sensirion provides various ways to the user to retrieve their sensor certificate. The Sensirion distribution platform is [Libellus](#). Through the Libellus API and the MyAmbience App, the user can automatically retrieve the ISO17025 certificate for their sensor. To do that, locate your SHT43 Demoboard on the MyAmbience app as shown in the picture below and tap the settings cog wheel on the bottom right of the card.



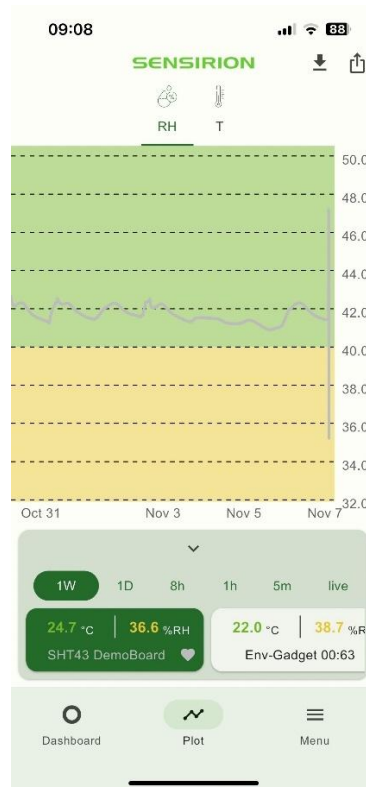
This will bring you to the Gadget Settings view where you can find the Sensor Certificate section and simply tap "Fetch Certificate" to retrieve the certificate in a PDF format.



2.5 Logging and recording data with the SHT43 DemoBoard

The SHT43 DemoBoard has an internal memory and stores logged Temperature and Relative Humidity data until its memory is full. You can download the logged data from the plot section on MyAmbience app by tapping the down arrow on the top right of the app. Please select the SHT43 DemoBoard first. This might take a bit of time depending on the amount of data stored on the SHT43 DemoBoard.

Once downloaded to the app the data can be viewed in the plot section or can be exported to a CSV compatible file format. The file format is .EDF and can be viewed with Sensirion's DataViewer or can be imported to Microsoft excel or any other .CSV compatible editing software.



2.6 Error Codes

Various errors can occur during operation, in cases where the firmware fails to recover, the display will show an error code. When such unrecoverable errors are encountered, the device requires the battery to be removed and re-inserted to re-initialize.

The following table will allow you to understand the issue encountered:

Error Code	Description
0	A software check (assert) failed.
1	A peripheral of the micro-controller had an unexpected behavior.
2	This error is not used.
3	Several consecutive sensor readings failed.
4	The ST wireless stack could not be initialized.
5	An error occurred while storing data to the flash memory.
6	The ST wireless stack emitted an error.
7	The ST wireless stack did not boot-up properly after successful initialization.

3 Open-source design

Various resources related to the SHT43 DemoBoard are available, including the firmware and the schematics of the PCB. You will find the repositories containing the code and the associated documentation on Github.com at the following address: github.com/Sensirion?q=sht43-demoboard.

4 Important Security Advice

4.1 CE Declaration of Conformity

Product Identifier	SHT43 DemoBoard
Trade Name	SHT43 DemoBoard

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Sensirion AG,
Laubisrütistrasse 50
8712 Stäfa
Switzerland

The object of the declaration described above is in conformity with the relevant European Union harmonization legislation:

2014/53/EU	Radio Equipment Directive (RED)
2011/65/EU	RoHs 2 Directive

References to the relevant harmonized standards used, or references to the specifications in relation to which conformity is declared:

EN 62368-1 2014+Corr.1 2015	Safety of electronic equipment within the fields of Audio/Video, Information Technology and Communication Technology
EN 301 489-1 V2.2.3	Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonized Standard for Electromagnetic Compatibility
EN 301 489-17 V3.2.4	Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonized Standard for Electromagnetic Compatibility
EN 300 328 V2.2.2	Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonized Standard for access to radio spectrum

4.2 FCC Certification

The SHT43 DemoBoard contains a BLE module manufactured and tested on behalf of ST Microelectronics. The STM32WB5MMG (FCC ID: YCP-32WB5MMGH02) device complies with Part 15 Subpart B of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The SHT43 DemoBoard has been tested by a 3rd party to confirm the device complies with the regulations mentioned above.

Trade Name	SHT43 DemoBoard
Model Name	SHT43 DemoBoard
Contains module with FCC ID	YCP-32WB5MMGH02

Responsible Party – U.S. Contact Information:





Sensirion Inc.
 11 East Adamas Suite 220
 Chicago, IL 60603
 United States
 Tel: +1 312-690-5858

4.3 ISED Certification

The SHT43 DemoBoard contains a BLE module manufactured and tested on behalf of ST Microelectronics. The STM32WB5MMG used on the SHT43 DemoBoard has been tested on behalf of ST Microelectronics and found compliant with the ISED RSS-247 and RSS-Gen rules. The IC ID of the module is: 8976A-32WB5MMGH02.

The SHT43 DemoBoard has been tested by a 3rd party to confirm the device complies with the regulations mentioned above.

4.4 Safety Instructions

	<p>Operate the SHT43 DemoBoard with care and follow the instructions.</p> <p>Using the connector pads on the backside of the SHT43 DemoBoard must only be performed by individuals with relevant expertise.</p> <p>Always remove the coin cell battery if external supply is connected!</p>
	<p>This equipment is not allowed to be used in locations where children are likely to be present (contains swallowable parts). If any part is swallowed, seek medical attention immediately.</p>
	<p>The SHT43 DemoBoard is sensitive to electrostatic discharge (ESD).</p>
	<p>The SHT43 DemoBoard is intended for indoor use only.</p>

5 Version History

Date	Version	Changes
02.05.2025	1.0	Initial Release
12.06.2026	1.1	Added error codes and link to open-source resources.

Important Notices

Warning, Personal Injury

Do not use this product as safety or emergency stop devices or in any other application where failure of the product could result in personal injury. Do not use this product for applications other than its intended and authorized use. Before installing, handling, using or servicing this product, please consult the data sheet and application notes. Failure to comply with these instructions could result in death or serious injury.

If the Buyer shall purchase or use SENSIRION products for any unintended or unauthorized application, Buyer shall defend, indemnify and hold harmless SENSIRION and its officers, employees, subsidiaries, affiliates and distributors against all claims, costs, damages and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if SENSIRION shall be allegedly negligent with respect to the design or the manufacture of the product.

ESD Precautions

The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation, take customary and statutory ESD precautions when handling this product.

See application note "ESD, Latchup and EMC" for more information.

Warranty

SENSIRION warrants solely to the original purchaser of this product for a period of 12 months (one year) from the date of delivery that this product shall be of the quality, material and workmanship defined in SENSIRION's published specifications of the product. Within such period, if proven to be defective, SENSIRION shall repair and/or replace this product, in SENSIRION's discretion, free of charge to the Buyer, provided that:

- notice in writing describing the defects shall be given to SENSIRION within fourteen (14) days after their appearance;
- such defects shall be found, to SENSIRION's reasonable satisfaction, to have arisen from SENSIRION's faulty design, material, or workmanship;
- the defective product shall be returned to SENSIRION's factory at the Buyer's expense; and
- the warranty period for any repaired or replaced product shall be limited to the unexpired portion of the original period.

This warranty does not apply to any equipment which has not been installed and used within the specifications recommended by SENSIRION for the intended and proper use of the equipment. EXCEPT FOR THE WARRANTIES EXPRESSLY SET FORTH HEREIN, SENSIRION MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT. ANY AND ALL WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY EXCLUDED AND DECLINED.

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SENSIRION does not assume any liability arising out of any application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. All operating parameters, including without limitation recommended parameters, must be validated for each customer's applications by customer's technical experts. Recommended parameters can and do vary in different applications.

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To find your local representative, please visit www.sensirion.com/distributors

Important Notices

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If the Buyer shall purchase or use SENSIRION products for any unintended or unauthorized application, Buyer shall defend, indemnify and hold harmless SENSIRION and its officers, employees, subsidiaries, affiliates and distributors against all claims, costs, damages and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if SENSIRION shall be allegedly negligent with respect to the design or the manufacture of the product.

ESD Precautions

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SENSIRION is only liable for defects of this product arising under the conditions of operation provided for in the data sheet and proper use of the goods. SENSIRION explicitly disclaims all warranties, express or implied, for any period during which the goods are operated or stored not in accordance with the technical specifications.

SENSIRION does not assume any liability arising out of any application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. All operating parameters, including without limitation recommended parameters, must be validated for each customer's applications by customer's technical experts. Recommended parameters can and do vary in different applications.

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