



## CERTIFICATE OF VALIDATION FOR PAX

Document Number	VER-PAx-xxx, v3.0.4
Document Date	MMMM DD, YYYY
Document Type	Validation of Accuracy
Unit Description	Temperature and % Relative Humidity Sensor
Units Covered	PAX

### Temperature Accuracy

PAX reads temperatures with a stated accuracy of  $\pm 0.5^{\circ}\text{C}$  from  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ . Per the sensor manufacturer (Silicon Labs), all sensors within PAX are individually tested and calibrated at the time of manufacture to ensure that factory accuracy specifications are met. All factory calibration adjustments are entered through software and are stored in non-volatile memory within the device. All factory calibrations are performed against temperature standards established by the National Institute of Standards and Technology (NIST). All factory calibrations are performed using equipment that is calibrated on a regular basis by an ISO/IEC 17025 laboratory. Per the sensor manufacturer, the sensors have a drift of  $\leq 0.01^{\circ}\text{C}$  per year.

### Sampling

Temperature readings are verified with a platinum RTD thermometer. A Fluke 1504 is used to read the thermometer. The devices are immersed in a Fluke 7060 oil bath during measurements. Temperature calibration checks are done from  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  in  $10^{\circ}\text{C}$  increments. Verigo conducts a validation test for temperature using a Labcal PRO Precision Thermometer, serial number 1092, at the following temperatures;  $-20^{\circ}\text{C}$ ,  $0^{\circ}\text{C}$ ,  $20^{\circ}\text{C}$ ,  $40^{\circ}\text{C}$ ,  $60^{\circ}\text{C}$ .

### Relative Humidity Accuracy

PAX reads relative humidity (RH) with a stated accuracy of  $\pm 5\%$  RH from 20% to 80% RH after 8 hours of soak time in a stable environment. Per the sensor manufacturer (Silicon Labs), all sensors within PAX are individually tested and calibrated at the time of manufacture to ensure that factory accuracy specifications are met. All factory calibration adjustments are entered through software and are stored in non-volatile memory within the device. Sensor readings are then verified on a sample basis against a chilled mirror hygrometer from 20% to 80% RH. All factory calibrations are performed against humidity standards established by NIST. All factory calibrations are performed using equipment that is calibrated on a regular basis by an ISO/IEC 17025 laboratory. Per the sensor manufacturer, the sensors have a drift of  $\leq 0.25\%$  RH per year.

### Sampling

Relative humidity sensor readings are verified on a sample basis. Per 50,000 production units, an eight-point verification procedure is performed against a chilled mirror hygrometer from 20% to 80% RH.



## Accuracy Statement

Verigo certifies that the sensors contained within the assembled units listed below have been factory tested and calibrated to meet or exceed the published specifications for temperature and RH measurement. Assembled PAXs are further tested by Verigo on a sample basis to ensure published specifications for temperature and RH measurements are met. This certificate shall not be reproduced, except in full, without the written consent of Verigo.



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Jay Cox  
Manufacturing Engineer



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<b>All PA3 units with Serial Numbers in the following range(s)</b>	<b>Date of Factory Calibration</b>	<b>Factory Calibration Pass/Fail</b>
XXXXXX - XXXXXX	MMMM YYYY	PASS





# Certificate of Calibration

Oct 4, 2016

This certificate applies to the following devices or series of devices as furnished by Silicon Labs.

Si7005	Si7006	Si7007
Si7013	Si7015	Si7020
Si7021	Si7022	Si7023
Si7034	Si7050	Si7051
Si7053	Si7054	Si7055
Si7057	Si7058	Si7059

In order to insure the datasheet specifications and any agreed-upon customer specific requirements are met, each sensor is calibrated under controlled temperature and relative humidity conditions.

This calibration is completed using equipment calibrated on a regular basis by a laboratory certified to operate in accordance with ISO/IEC 17025, is a member of the International Laboratory Accreditation Cooperation (ILAC) and is a signatory of the ILAC Mutual Recognition Arrangement (MRA).

The temperature and humidity standards (transfer standards) used for calibration are traceable via these accredited laboratories to standards set by the National Institute of Standards and Technology (NIST).

Each device has undergone functional testing following calibration.

A handwritten signature in black ink, reading 'Harold Melton', is positioned above a horizontal line.

Harold Melton

Director of Quality Engineering

400 West Cesar Chavez, Austin TX 78701

Phone: (512) 416-8500

1 [www.silabs.com](http://www.silabs.com) | Si70xx Calibration Certificate



Verigo | [www.verigo.io](http://www.verigo.io) | 352.363.5070 | [info@verigo.io](mailto:info@verigo.io)