



Release Notes

Bosch Sensortec GmbH
Gerhard-Kindler-Straße 9
72770 Reutlingen
Tel 07121 3535-900
www.bosch-sensortec.com

Product name	BSEC
Compatible hardware	BME680 and BME688
Release version (number)	2.5.0.2
Date of release	11-01-2024
Name of release package	BSEC_2.5.0.2_Generic_Release_11012024
Release type (reason for the release)	Website release of Version 2.5.0.2

Purpose of the software	Software components required for BME680 and BME688
-------------------------	--

Components included	<ul style="list-style-type: none">• BSEC binaries• Integration Guide• BSEC Binary Size Information• Config String for specific settings• Example code for integration
---------------------	---

New features and changes implemented compared to the previous release	<ul style="list-style-type: none">• Included the Data Augmentation feature to optimize the sensor to sensor deviation effects• Introduced the regression estimation feature to enable quantitative output
---	--

Defects fixed according to the previous release	<ul style="list-style-type: none">• CO₂ scaling factor corrected to adapt the IAQ algorithm improvement• User will get a warning message when the sampling rate of configuration and subscribed outputs are not matching
---	--

Known issues	<ul style="list-style-type: none">• Enabling the pressure channel for gas scanning is only recommended in applications with clear correlation to classes. In other cases, misclassification can happen due to “unknown / untrained” pressure signal characteristics.• Raw temperature outputs might not be within +/-2 degrees of surrounding environment during scan mode.• IAQ outputs are calculated as well in scan mode, but are not accurate and thus not recommended to be used.
--------------	---

Additional comments (optional)	<ul style="list-style-type: none"> • BME AI Studio v2.3.2 supports this BSEC version. • BME Development Kit firmware v2.1.4 supports this BSEC version. • BME AI Studio Mobile App v2.4.16 supports this BSEC version. • Tested MCUs: <ul style="list-style-type: none"> ○ Cortex_M0+ (gcc) ○ Cortex_M0 (gcc) ○ Cortex_M3 (gcc) ○ Cortex_M4F (gcc) ○ Cortex-M33F (gcc) ○ ArmV8 ○ ESP32 ○ ESP8266 ○ ESP32-S2 ○ ESP32-S3 ○ ESP32-C3 ○ ESP32-C6
--------------------------------	---

Version history	Changes
BSEC 2.4.0.0	<ul style="list-style-type: none"> • Multi instance interface support – BSEC will support multiple sensors. Additional interface file ‘bsec_interface_multi.h’ added to support multi instance APIs. • Unified static library to support sensor variants, Configuration files offered separately for BME680 and BME688 sensors. • Reduced library size by optimizing configuration and state properties for catering to multi instance support.
BSEC 2.2.0.0	<ul style="list-style-type: none"> • configuration update. • IAQ algorithm improved w/r to interaction and performance by optimized baseline adaptation. Accordingly, the IAQ adaptation points have been updated to 50 & 200 for best user experience (former versions used 25 & 250). • IAQ output available in continuous mode operation (ODR 1 Hz). • Temperature-Humidity compensation in IAQ output updated (adopted from BSEC version 1.4.8.0). • Merged BSEC 1.x and BSEC 2.x (means BSEC 2.2.0.0 incl. full functionality of BSEC 1.4.9.2). • Static code error/warning fixes.
BSEC 2.0.6.1	-/- (initial release)