Release Notes

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Product name	BSEC 2.x
Compatible hardware	BME688
Release version (number)	2.2.0.0
Date of release	30-05-2022
Name of release package	BSEC_2.2.0.0 Generic_Release_30052022
Release type (reason for the release)	Website release of Version 2.2.0.0

Purpose of the software	Software components required for BME688

Components included	• 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	• configuration update, see table 1 below. • 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.

Defects fixed according to the previous release	• Heatsource input could be enabled with process data bit setting, if temperature input is also enabled. • Switch positive rate of change time to higher value only if fast baseline adaptation period is over

Known issues	• 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.

	• Ambient 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. • Initial value of CO_2-equivalent output is 600 instead of 400 due to new baseline algorithm. This will be fixed w/ next release.

Additional comments (optional)	• BME AI Studio 1.7.1 supports this BSEC version. • Recommended configuration for improved IAQ output is 'BSEC_SEL_IAQ_18V_3s_28d/ BSEC_SEL_IAQ_33V_3s_28d'. • Users can update the settings for gas estimate outputs using BME AI-Studio.For a BME AI-Studio generated configuration file, the default settings for all outputs other than gas estimates are based on 'bsec_sel_iaq_18v_3s_28d' file settings.

Version history	Changes
BSEC 2.0.6.1	-/- (initial release)

Table 1: Configuration update

Config Names	**Supply Voltage (V)**	**Data Rate for IAQ (seconds)**	**Time considered for background calibration for IAQ (days)**	**Gas estimate output class**
BSEC_SEL_IAQ_33V_300s_28d	3.3	300s	28	H2S/NonH2S
BSEC_SEL_IAQ_33V_300s_4d	3.3	300s	4	H2S/NonH2S
BSEC_SEL_IAQ_33V_3s_28d	3.3	3s	28	H2S/NonH2S
BSEC_SEL_IAQ_33V_3s_4d	3.3	3s	4	H2S/NonH2S
BSEC_SEL_IAQ_18V_300s_28d	1.8	300s	28	H2S/NonH2S
BSEC_SEL_IAQ_18V_300s_4d	1.8	300s	4	H2S/NonH2S
BSEC_SEL_IAQ_18V_3s_28d	1.8	3s	28	H2S/NonH2S
BSEC_SEL_IAQ_18V_3s_4d	1.8	3s	4	H2S/NonH2S