AIROC™ Bluetooth® SDK 3.3 release notes

About this document

Scope and purpose

This release is an update for AIROC™ Bluetooth® SDK 3.2.

AIROC™ Bluetooth® SDK 3.3 is targeted for the CYW20706, CYW20719B2, CYW20721B2, CYW20735B1, CYW20736, CYW20835B1, CYW20819, CYW20820, CYW30739, CYW89820, CYW43012 AIROC™ Wi-Fi & Bluetooth® combo chips (for embedded Bluetooth® development only), and CYW5557x AIROC™ Wi-Fi & Bluetooth® combo chips. ModusToolbox™ software with the Bluetooth® SDK software library provides a complete development environment to allow you to quickly create Bluetooth®-enabled IoT solutions such as smartwatches, medical devices, or home automation platforms. This document describes the features and known limitations of Bluetooth® SDK 3.3.

Table of contents

1   What's changed

- Added support for the CYW920820M2EVB-01 evaluation board.

Note: Support for the CYW920820EVB-02 evaluation board will be deprecated in future releases of the AIROC™ Bluetooth® SDK.

- Added device configurator support for the CYW943012BTEVK-01 and CYW55572BTEVK-01
- Removed support for the CYW920721B2EVK-02 evaluation kit. The CYW920721M2EVK-02 is the replacement for this kit.
- Added PAN-NAP support in the watch code example for the CYW20721
- Added support for multiple ANCS and AMS in the watch code example to support connections to two phones simultaneously.
- Moved patches to flash for the CYW20819 and CYW20820 platforms
- Included mesh embedded provisioner code example for the CYW920835M2EVB-01
- Added audio gateway and AMS/ANCS code examples for CYW955572BTEVK-01
- Added AAC decoding support for the CYW95572BTEVK-01
- Added embedded unicast sink application (Pro package) for the CYW95572BTEVK-01
- Updated the CYW43012 to address the Braktooth vulnerabilities (CVE-2021-34145, CVE-2021-34148, CVE-2021-34146, CVE-2021-34147)

2 What's included

2.1 AIROC™ Bluetooth® SDK

This SDK includes the following:

- Bluetooth® firmware
- Platform and board support packages
- Utilities including BTSpy trace, Manufacturing Bluetooth® test tool, Client Control, and Mesh Client Control
- Peer apps for OTA and Mesh
- A rich set of connectivity APIs that allow for simplified programming of Bluetooth®/Bluetooth® LE connectivity
- Various sample applications that demonstrate how to use the Bluetooth®/Bluetooth® LE APIs
- More complex code examples that use various APIs and middleware to create a complete solution

2.2 Supported devices

The AIROC™ Bluetooth® SDK is targeted for the following devices with ModusToolbox™ software 2.4:

- AIROC™ CYW20706 Bluetooth® & Bluetooth® LE system on chip
- AIROC™ CYW20719B2 Bluetooth® & Bluetooth® LE system on chip
- AIROC™ CYW20721B2 Bluetooth® & Bluetooth® LE system on chip
- AIROC™ CYW20735B1 Bluetooth® & Bluetooth® LE system on chip
- AIROC™ CYW20736 Bluetooth® LE system on chip
- AIROC™ CYW30739 Bluetooth® LE & 802.15.4 multi-protocol system on chip
- AIROC™ CYW20835 Bluetooth® LE system on chip
- AIROC™ CYW20819A1 Bluetooth® LE system on chip
- AIROC™ CYW20820A1 Bluetooth® LE system on chip
- AIROC™ CYW89820 Automotive Bluetooth® chip
- AIROC™ CYW43012C0 Wi-Fi & Bluetooth® combo chip (for embedded Bluetooth® development only)
- AIROC™ CYW5557x Wi-Fi & Bluetooth® combo chip (for embedded Bluetooth® development only)
- AIROC™ CYBLE-333074-02 Bluetooth® LE module
- AIROC™ CYBLE-343072-02 Bluetooth® LE module
- AIROC™ CYBT-213043-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-223058-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-243053-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-253059-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-263065-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-273063-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-333047-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-343026-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-343052-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-353027-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-483056-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-413055-02 Bluetooth® & Bluetooth® LE module

What's included

- AIROC™ CYBT-423054-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-483062-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-413061-02 Bluetooth® & Bluetooth® LE module
- AIROC™ CYBT-423060-02 Bluetooth® & Bluetooth® LE module

3 Design impact

3.1 Updating from Bluetooth® SDK 3.2

AIROC™ Bluetooth® SDK 3.3 code examples can be acquired from the **Infineon GitHub repo**.

Note: *If you must keep a Bluetooth® SDK 3.x or an earlier version, create a new workspace project to pull in Bluetooth® SDK 3.3 and to avoid overwriting previous versions.*

Do the following in the initial setup of AIROC™ Bluetooth® SDK 3.3 with ModusToolbox™ software 2.4:

1. In the IDE, click the **New Application** link in the Quick Panel (or use **File** > **New** > **ModusToolbox™ Application**).
2. In **Project Creator**, click **AIROC™ Bluetooth® BSPs**.
3. Pick your board for Bluetooth® SDK.
4. Select a template application.
5. Click **Create** and then click **Close**.

4 Supported boards

Board	MCU	Connectivity
CYW920819EVB-02	CYW20819	CYW20819
CYW920819REF-KB-01	CYW20819	CYW20819
CYBT-213043-MESH	CYBT-213043-02	CYW20819
CYBT-213043-EVAL	CYBT-213043-02	CYW20819
CYBT-223058-EVAL	CYBT-223058-02	CYW20819
CYBT-263065-EVAL	CYBT-263065-02	CYW20819
CYBT-273063-EVAL	CYBT-273063—2	CYW20819
CYW920820M2EVB-01	CYW20820	CYW20820
CYW920820EVB-02	CYW20820	CYW20820
CYBT-243053-EVAL	CYBT-243053-02	CYW20820
CYBT-253059-EVAL	CYBT-253059-02	CYW20820
CYW920835REF-RCU-01	CYW20835	CYW20835
CYW920835M2EVB-01	CYW20835	CYW20835
CYBLE-333074-EVAL-M2B	CYBLE-333074-02	CYW20835
CYBLE-343072-EVAL-M2B	CYBLE-343072-02	CYW20835
CYBLE-343072-MESH	CYBLE-343072-02	CYW20835
CYW930739M2EVB-01	CYW30739	CYW30739
CYW920736M2EVB-01	CYW20736	CYW20736
CYW920735Q60EVB-01	CYW20735	CYW20735
CYW920721M2EVK-01	CYW20721B2	CYW20721B2
CYW920721M2EVK-02	CYW20721B2	CYW20721B2
CYW920721M2EVB-03	CYW20721B2	CYW20721B2
CYBT-413061-EVAL	CYBT-413061-02	CYW20721B2
CYBT-423060-EVAL	CYBT-423060-02	CYW20721B2
CYBT-483062-EVAL	CYBT-483062-02	CYW20721B2
CYW920719B2Q40EVB-01	CYW20719B2	CYW20719B2
CYBT-423054-EVAL	CYBT-423054-02	CYW20719B2
CYBT-413055-EVAL	CYBT-413055-02	CYW20719B2
CYBT-483056-EVAL	CYBT-483056-02	CYW20719B2
CYW920706WCDEVAL	CYW20706	CYW20706
CYBT-353027-EVAL	CYBT-353027-02	CYW20706
CYBT-343026-EVAL	CYBT-343026-02	CYW20706
CYBT-333047-EVAL	CYBT-333047-02	CYW20706
CYW989820EVB-01	CYW89820	CYW89820
CYW943012BTEVK-01	CYW43012	CYW43012
CYW9M2BASE-43012BT	CYW43012	CYW43012
CYW955572BTEVK-01	CYW55572	CYW55572

5 Fixes for the known issues

This section lists the known issues from the AIROC™ Bluetooth® SDK 3.2 release that were fixed in this release.

Platform/Bluetooth® firmware/application	Fix
[CYW920819EVB-02] SPP	Fixed issue where the device fails to receive a message
[CYW920820EVB-01] MAP	Updated firmware to fix an issue where DUT is unable to connect with the iOS device after disconnecting during streaming
[CYW920721M2EVK-02] audio gateway	Fixed issue where there was no audio output if SCO was configured for wideband speech

6 Known issues/limitations

Table 1 **Documentation**

Problem	Workaround
Various documents included with the release may contain incomplete information or may not have up-to-date screen captures or information.	New versions of documents, including these release notes, may be available **online**.

Table 2 **Platform**

Limitation	Workaround
ModusToolbox™ software 2.4 supports Arm® GCC, Arm® compiler v6, and IAR toolchain. The Bluetooth® SDK supports only Arm® GCC.	None.
The following kits have limited availability: • CYW920820M2EVB-01 • CYW920835REF-RCU-01 • CYW920835M2EVB-01 • CYW930739M2EVB-01 • CYW920736M2EVB-01 • CYW920721M2EVK-01 • CYW920721M2EVK-02 • CYW920721M2EVB-03 • CYW920719B2Q40EVB-01 • CYW989820EVB-01 • CYW943012BTEVK-01 • CYW9M2BASE-43012BT • CYW955572BTEVK-01 • CYBLE-333074-EVAL-M2B • CYBLE-343072-EVAL-M2B • CYBLE-343072-MESH	Contact Sales to request access.
Support for CYW920721B2EVK-02 has been removed.	Contact sales to request access to the CYW920721M2EVK-02.
CYW920820EVB-02 has limited availability. Note that support for this platform will be removed in a future Bluetooth® SDK release.	Contact sales to request access to the CYW920820M2EVB-01.
iAP2 code examples are not included by default in Bluetooth® SDK 3.3.	Get the MFi license and contact Sales to request access to the additional code example.
PEPS code examples for the CYW89820 are not included by default in Bluetooth® SDK 3.3.	Contact Sales to request access to the additional code examples available for CYW89820.

Known issues/limitations

Table 3   Bluetooth® SDK

Problem	Workaround
[CYW920719B2Q40EVB-01] Bluetooth® Mesh conformance: Command receive failed (timeout) in MESH/NODE/RLY/BV-02-C	This is a PTS issue. A newer version of PTS should fix the issue.
[CYW920721M2EVK-01] HAL_ADC: Incorrect voltage values are displayed when GPIO pin P0 is connected to 3.3V	This issue is targeted to be addressed in a future Bluetooth® SDK release.
[CYW920721M2EVK-01] MAP: There is no provision in client control UI to download emails with Samsung Note 8	The option to display email service is limited to what the peer device (phone) can support. Choose another peer device that supports the MAP server with email service.
[CYW920721M2EVK-02] Headset_wass: Glitches are heard on PRI and no audio on SEC during audio streaming when OTA upgrade through the OTA SPP app is running.	This issue is targeted to be addressed in a future Bluetooth® SDK release.
[CYW920721M2EVK-02] Headset_wass: No voice prompt is working when the time SEC is reset during headset reconnection from PRI.	This issue is targeted to be addressed in a future Bluetooth® SDK release.
[CYW920721M2EVK-02] Headset_wass: Discoverability reduces to zero when the DUT is disconnected before pairing mode is allowed to zero.	This issue is targeted to be addressed in a future Bluetooth® SDK release.
[CYW920721M2EVK-02] BT Speaker Pro AMA: Need to put the DUT in discoverable mode to perform LE reconnection	This issue is targeted to be addressed in a future Bluetooth® SDK release.
[CYW55572BTEVK-01] Handsfree: Echo can be observed with high mic gains on eval kit.	Customers should implement echo cancellation algorithms on the DSP audio hardware codec vendor of choice.
[CYW920735Q60EVB-01] The board requires a recovery reset before download.	Reset recovery can be used as a workaround.
[CYW920736M2EVB-01] Downloads: Back-to-back download of applications is not supported.	After downloading an application to a device, the reset recovery operation must be performed on the device before a new application can be downloaded.
[CYW920819EVB-02] Watch: Current spikes of 200 µA on J15 (VDDIO)	This issue will not be fixed.
[CYW920820EVB-02] The Spi_master functionality does not work after changing the pin configuration through the Device Configurator.	Device Configurator should be used only for reserving pins and not assigning functionality. This issue will not be fixed.
[CYW920820EVB-02] The Spi_slave functionality does not work after changing the pin configuration through the Device Configurator.	Device Configurator should be used only for reserving pins and not assigning functionality. This issue will not be fixed.
[CYW920820EVB-02] homekit_lightbulb: Characteristics datatype is displayed as "unknown".	This issue will be addressed in a future Bluetooth® SDK release.
[CYBT-213043-EVAL] MC receives bad packets when HCI tracing is enabled due to the low baud rate and buffer settings with Linux.	Decrease logging on the UART for Linux. This issue will not be fixed.

Known issues/limitations

Problem	Workaround
[CYBT-213043-EVAL] Lecoc: Intermittently observed bad packets	This issue is due to CY serial bridge software. This issue will not be fixed.
When using the ANS application, the UI does not allow generating all possible alerts simultaneously.	This is a current UI limitation; the application can handle generating alerts. The UI can generate individual alerts.
Update any API documentation that uses the bd_addr as input to reflect the endianness required.	This documentation issue will be addressed in a future Bluetooth® SDK release.
Update the wiced_bt_dev API documentation to reflect that it is intended for Bluetooth® LE only (wiced_bt_dev_add_device_to_address_resolution_db api).	This documentation issue will be addressed in a future Bluetooth® SDK release.

7 Open source

Portions of this software package are licensed under free and/or open-source licenses such as the GNU General Public License. Such free and/or open-source software is subject to the applicable license agreement and not the Infineon license agreement covering this software package. The appropriate license agreements are available **online**.

8 Further reading

See ModusToolbox™ software documents (including but not limited to the following):

- ModusToolbox™ software installation guide
- Bluetooth® API documentation
- Eclipse IDE for ModusToolbox™ software quick start guide
- Eclipse IDE for ModusToolbox™ software user guide
- ModusToolbox™ software configurator guides (for each configurator)

Other documentation includes (but is not limited to):

- Device datasheets
- Application notes
- Training

Contact your representative as needed.

IMPORTANT NOTICE
The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie") .

With respect to any examples, hints or any typical values stated herein and/or any information regarding the application of the product, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

In addition, any information given in this document is subject to customer's compliance with its obligations stated in this document and any applicable legal requirements, norms and standards concerning customer's products and any use of the product of Infineon Technologies in customer's applications.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer's technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

For further information on the product, technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies office (**www.infineon.com**).

WARNINGS
Due to technical requirements products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies' products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.