

Bluetooth SDK 2.6 Release Notes

Overview

This release is an update to the Bluetooth SDK 2.5. The Bluetooth SDK 2.6 is targeted for the CYW20706, CYW20719B2, CYW20721B2, CYW20735B1, CYW20819, CYW20820, CYW89820 and the CYW43012 Wi-Fi/BT Combo (for embedded Bluetooth development only). ModusToolbox™ with the Bluetooth SDK software library provides a complete development environment to allow you to quickly create Bluetooth enabled IoT solutions like smart watches, medical devices, or home automation platforms. This document describes the features and known limitations for the Bluetooth SDK 2.6.

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What's Changed

This section provides a high-level overview about what changed from Bluetooth SDK 2.5 to Bluetooth SDK 2.6.

- Added button-initiated headset WASS AMA code example for the CYW20721B2
- Added MAP client code example for the CYW20819 and CYW20820
- Added embedded provisioner code example for Bluetooth mesh on the CYW20819, CYBT-213043, CYW20820, CYW20721B2, and CYW20719B2

- Added hci iAP2 spp code example for the CYW20721B2, CYW20819, and CYW20820
- Added uART raw mode code example for the CYW20819, CYW20820, CYW20721B2 and CYW20719B2

What's Included

Bluetooth SDK

The Bluetooth SDK is targeted for the CYW20706, CYW20719B2, CYW20721B2, CYW20735B1, CYW20819A1, CYW20820A1, CYW89820, and CYW43012C0 with ModusToolbox 2.1. 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 WICED connectivity APIs that allow for simplified programming of BT/BLE connectivity
- Various sample applications that serve as examples of how to utilize the BT/BLE APIs
- More complex code examples that utilize various APIs and middleware to create a more complete solution

Design Impact

Updating from Bluetooth SDK 2.5

The Bluetooth SDK 2.6 code examples can be acquired from the Cypress GitHub. Note, if a previous version of Bluetooth SDK 2.x was installed and needs to be preserved, you will need to create a new workspace and wiced_btSDK project in order to pull in Bluetooth SDK 2.6 and avoid overwriting previous versions.

There are a couple of steps that must be done in the initial setup of the Bluetooth SDK 2.6 with ModusToolbox 2.1:

- In the IDE, click the “New Application” link in the Quick Panel (or, use “File > New > ModusToolbox Application”)
- This will launch the Project Creator. In Project Creator, click on “WICED Bluetooth BSPs”
- Pick your board for Bluetooth SDK
- First select “wiced-btSDK”. This project contains the SDK. It is used by all Bluetooth SDK applications. You will need to create this project just once in the working directory. **Note:** Do not change the name of this project. All Bluetooth SDK apps use this project name in application makefiles.
 - Select create. This step can take up to 15 minutes but only needs to be done once.

- Select Close.
- After the wiced_btSDK project is created, click the “New Application” link to launch the Project Creator. In the Project Creator, select the evaluation board and application that you want to use from the Bluetooth SDK.

Supported Boards

This release provides support for the following boards.

Board	MCU	Connectivity
CYW920819EVB-02	CYW20819	CYW20819
CYW920819REF-KB-01	CYW20819	CYW20819
CYBT-213043-MESH	CYW20819	CYW20819
CYBT-213043-EVAL	CYW20819	CYW20819
CYW920820EVB-02	CYW20820	CYW20820
CYW920735Q60EVB-01	CYW20735	CYW20735
CYW920721B2EVK-02	CYW20721B2	CYW20721B2
CYW920721B2EVK-03	CYW20721B2	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
CYW989820EVB-01	CYW89820	CYW89820
CYW9M2BASE-43012BT	CYW43012	CYW43012

Known Issue Fixes

This section lists the known issues from the Bluetooth SDK 2.5 release that were fixed in this release.

Platform/BT Firmware/Application	Fix
[CYW920706WCDEVAL] Ble mesh conformance	Updated firmware and tested with latest version of PTS to solve issue where the Command received failed (timeout) in MESH/NODE/RLY/BV-02-C

Known Issues/Limitations

This section lists the known issues/limitations of this release:

Documentation

Problem	Workaround
Various documents included with the release may contain incomplete information or may not contain up to date screen captures or information.	New versions of documents, including these release notes, may be available online at: www.cypress.com/modustoolbox

Platform

Limitation	Workaround
ModusToolbox 2.1 supports Arm Gcc, Arm compiler v6 and IAR toolchain. The Bluetooth SDK only supports Arm GCC.	None.
CYW920820EVB-02 has limited availability.	Contact Cypress sales to request access.
CYW920721B2EVK-02 and CYW920721B2EVK-03 have limited availability.	Contact Cypress sales to request access.
CYW920719B2Q40EVB-01 has limited availability.	Contact Cypress sales to request access.
CYW989820EVB-01 has limited availability.	Contact Cypress sales to request access.
CYW9M2BASE-43012BT has limited availability.	Contact Cypress sales to request access.
Headset code example for CYW9M2BASE-43012BT was only tested by developers due to limited access to Cypress offices dictated by COVID-19 restrictions.	None. Increased test coverage is planned for future releases.
iAP2 code example are not included by default in the Bluetooth SDK 2.6.	Get Mfi license and contact Cypress sales to request access to the additional code example
Limited testing of homekit_lightbulb code example for CYW20819/20820	None. Increased test coverage is planned for future releases.
PEPS code examples for the CYW89820 are not included by default in the Bluetooth SDK 2.6	Contact Cypress sales to request access to the additional code examples available for the CYW89820.

Bluetooth SDK

Problem	Workaround
[CYW920706WCDEVAL] Ble mesh conformance: Expected value and received value do not match for LC server PTS test cases	This is a PTS issue. A newer version of PTS should fix the issue.
[CYW920719B2Q40EVB-01] Ble 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.
[CYW920721B2EVK-01] MAP: There is no provision in client control UI to download e-mails	There are no plans to implement this feature.
[CYW920721B2EVK-01] MAP: Contact number/name is not displayed for Unsaved contacts. This is an UI display issue; the trace shows the operation is working fine.	This issue is targeted to be addressed in a future Bluetooth SDK release.

Problem	Workaround
[CYW920721B2EVK-02] Headset_wass: Glitches are heard on PRI and no audio on SEC during audio streaming when OTA upgrade through OTA SPP app is running.	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-02] Headset_wass: Glitch is heard on headset when BLE connection from source2 during audio streaming from source 1	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-02] Headset_wass: No voice prompt is working from the time, after SEC is reset during headset re-connection from PRI	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-02] Headset_wass: Discoverability is going to zero when DUT is disconnected before pairing mode is allowed to zero.	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-02] Headset_wass: Able to start audio streaming from src2 during an incoming active voice call on src1	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-02] Headset Pro: IUT shows error when PTS sent Volume up/down commands in AVRCP/TG/PTT/BV-02-I	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-02] BT Speaker Pro AMA: Need to put DUT in discoverable mode to perform LE reconnection	This issue is targeted to be addressed in a future Bluetooth SDK release
[CYW920721B2EVK-02] BT Speaker Pro AMA: Volume is increasing by two levels when given command 'increase volume' to Alexa at minimum volume level	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-02] BT Speaker Pro AMA: Alexa is not responding when given command to 'play music', after pausing music from third party app, which is started during streaming from Alexa app	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-03] Headset_pro_aac: Held voice call on src2 is not coming to active state after declining incoming voice call on src1	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-03] Headset_wass_aac: Media volume sync is disabled after re-connection from source during audio streaming	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920721B2EVK-03] Headset_wass_aac: Glitch is heard on headset when WASS BLE is connected from src2 during audio streaming from src1.	This issue is targeted to be addressed in a future Bluetooth SDK release.
[CYW920735Q60EVB-01] Board requires recovery reset before download	Reset recovery can be used to work around. This issue is targeted to be addressed in the next Bluetooth SDK release.
[CYW920819EVB-02] Low power: Entering HID-OFF trace messages are not printing	This issue will be addressed in a future Bluetooth SDK release.
[CYW920819EVB-02] Watch: Observing current spikes of 200uA on J15 (VDDIO)	This issue is targeted to be resolved in a future Bluetooth SDK release.
[CYW920820EVB-02] Spi_master functionality is not working after changing pin configuration through device configurator	Device configurator should only be used for reserving pins and not assigning functionality. This issue will not be fixed.

Problem	Workaround
[CYW920820EVB-02] Spi_slave functionality is not working after changing pin configuration through device configurator	Device configurator should only be used for reserving pins and not assigning functionality. This issue will not be fixed.
[CYW920820EVB-02] Ble_keyboard/ble_mouse/ble_remote: Observing CYW20819 as chip name instead of CYW20820.	This issue will be addressed in a future Bluetooth SDK release.
[CYW920820EVB-02] homekit_lightbulb: Characteristics datatype is showing as "unknown"	This issue will be addressed in a future Bluetooth SDK release.
[CYBT-213043-EVAL] MC is receiving bad packets when HCI tracing is enabled due to low baud rate and buffer settings with Linux.	This issue can be worked around by decreasing the logging on the UART for Linux. This issue won't be fixed.
[CYBT-213043-EVAL] Lecoc: Intermittently observed bad packets	This issue is due to Cy Serial bridge software. This issue will not be fixed.
[CYBT-213043-MESH, CYW920820EVB-02] Unable to do OTA upgrade for apps which does not have Proxy feature enabled (dimmer, on_off_switch)	This issue will be addressed in a future BT SDK release.
[CYBT-213043-MESH] BLE MMDL Conformance: Did not receive all of the expected messages (expected message 2 of 2 at address 0xC001).	This is a PTS issue. A newer version of PTS should fix the issue.
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 wiced_bt_dev api documentation to reflect it is intended for BLE only (wiced_bt_dev_add_device_to_address_resoluit on_db api)	This documentation issue will be addressed in a future Bluetooth SDK release.
If launch <app_name> Debug_KitProg3 or <app_name>Debug_JLink* from Quick Panel then debugging with Minipro4 or J-Link in a WICED project does not stop on any breakpoints.	This will be addressed in a future Bluetooth SDK release.
J-Link attach configuration doesn't keep execution stopped on breakpoint after debug termination.	This will be addressed in a future Bluetooth SDK release.

Open Source

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<http://www.cypress.com/documentation/software-and-drivers/free-and-open-source-software-download-page>

Further Reading

There are several related documents provided with ModusToolbox software. These documents include (but are not limited to):

- ModusToolbox Installation Guide
- Bluetooth API Documentation
- ModusToolbox IDE Quick Start Guide
- ModusToolbox IDE User Guide
- ModusToolbox Configurator Guides (for each Configurator)

Other documentation includes (but is not limited to):

- Device Datasheets
- Application Notes
- Training

Contact your [Cypress representative](#), as needed.

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