



# Reducing time to market with the Bluetooth SDK

Infineon's virtual show 2020



# Infineon Bluetooth Software: What are we all about?

## **Intuitive, Easy to Use Software Tools**

- › ModusToolbox™ and the Bluetooth SDK allows rapid application development of Bluetooth enabled IoT solutions

## **Comprehensive set of code examples and reference applications**

- › A rich set of connectivity APIs that allow for simplified programming of BT/BLE connectivity
- › Customer's can reuse code snips and code examples that demonstrate how to use the APIs and leverages years of Infineon Bluetooth expertise
- › Utilities
  - BTSpy trace, Manufacturing Bluetooth Test tool, Client control, and Mesh client control
- › Rich software solutions for targeted segments
  - Bluetooth Mesh
  - Bluetooth Audio for hearables and wearables
  - Bluetooth HID

# Bluetooth SDK and HID



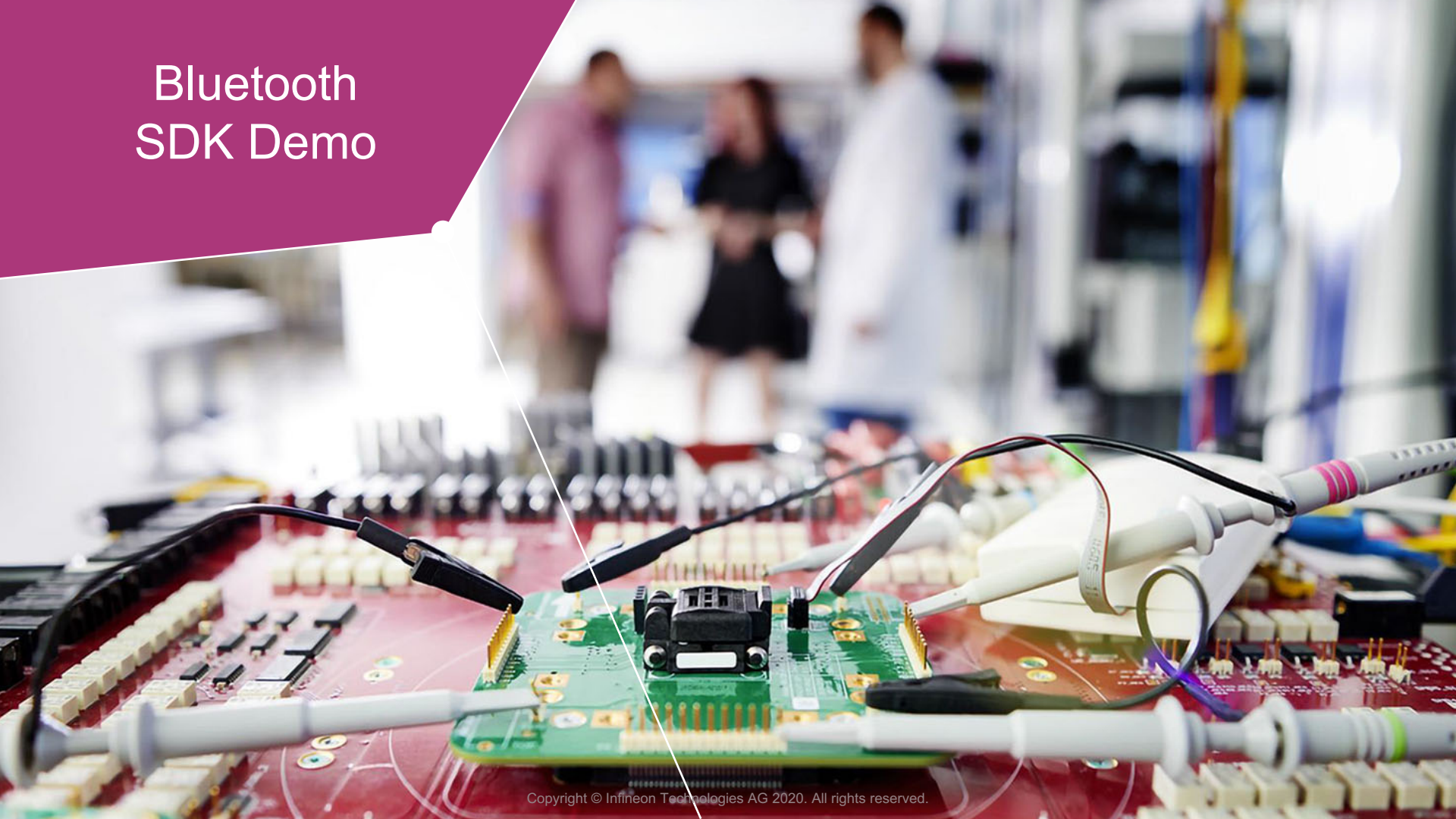
- › CYW20735, CYW20835, CYW20819, and CYW20820 are supported in the Bluetooth SDK for HID applications
- › HID Specific Code Examples
  - **Dual mode keyboard:** Code example of a CYW20819 dual-mode reference keyboard solution using the CYW20819 in a 112 pin module (CYW920819REF-KB-01)
  - **BLE keyboard:** Code example of a turn-key BLE keyboard solution using on-chip keyscan HW component and is based on HID over GATT profile (HOGP)
  - **BLE mouse:** Code example of a BLE mouse solution based on HOGP
  - **BLE remote:** Code example of a BLE remote control solution based on HOGP

# Bluetooth SDK and Automotive



- › CYW89820 and the CYW989820 platform are supported in the Bluetooth SDK
- › **CYW89820 Code Examples**
  - hello\_client, hello\_sensor, beacon, anc/ans, bas/bac, le coc, find me
  - spp, puart, pwm, gpio, i2c master, ota\_firmware\_upgrade, empty
- › **Pro Code Examples**
  - **iAP2**: Sample app demonstrating the use of the iAP2 protocol to communicate with an iOS device using the BT iAP2 library
  - **PEPS** (Passive Entry Passive Start)
    - Hub: Sample app demonstrating BLE PEPS Hub that connects with the car key
    - Key: Sample app demonstrating PEPS key usage to send localization packet (to be tracked)
    - Sensor: Sample app demonstrating PEPS sensor used for BLE localization (to track the key)

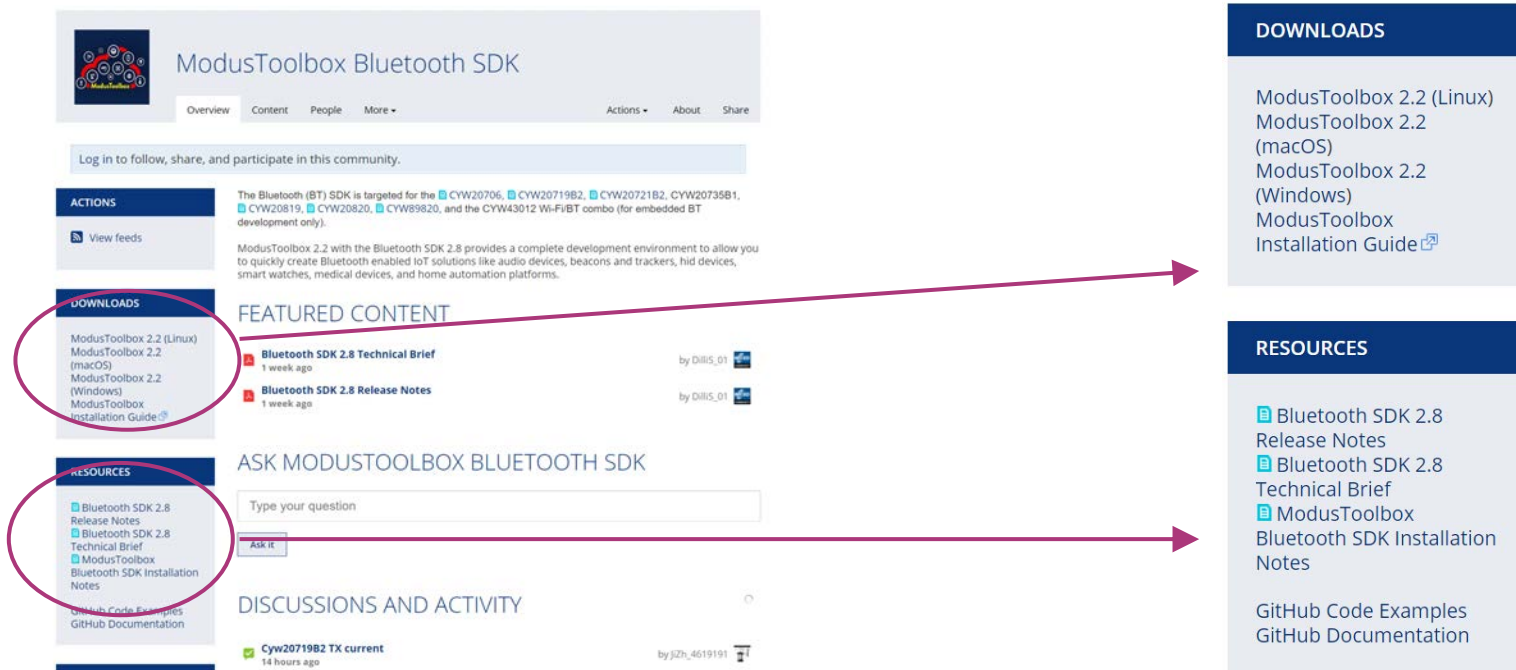
# Bluetooth SDK Demo



# Bluetooth SDK and Developer Community

Go-to link for everything related to the Bluetooth SDK

<https://community.cypress.com/community/software-forums/modustoolbox-bt-sdk>



The screenshot shows the 'ModusToolbox Bluetooth SDK' community page. It features a header with navigation tabs (Overview, Content, People, More) and a login prompt. The main content area is divided into several sections:

- ACTIONS:** Includes a 'View feeds' button.
- DOWNLOADS:** Lists links for ModusToolbox 2.2 (Linux, macOS, Windows) and the ModusToolbox Installation Guide. A red circle highlights this section, with an arrow pointing to a detailed 'DOWNLOADS' sidebar on the right.
- FEATURED CONTENT:** Displays 'Bluetooth SDK 2.8 Technical Brief' and 'Bluetooth SDK 2.8 Release Notes' by Dili5\_01. A red circle highlights this section, with an arrow pointing to a detailed 'RESOURCES' sidebar on the right.
- ASK MODUSTOOLBOX BLUETOOTH SDK:** Includes a search bar and an 'Ask it' button.
- DISCUSSIONS AND ACTIVITY:** Shows a discussion titled 'Cyw20719B2 TX current' by jZn\_4619191.
- RESOURCES:** Lists links for Bluetooth SDK 2.8 Release Notes, Bluetooth SDK 2.8 Technical Brief, ModusToolbox Bluetooth SDK Installation Notes, GitHub Code Examples, and GitHub Documentation. A red circle highlights this section, with an arrow pointing to a detailed 'RESOURCES' sidebar on the right.

On the right side of the page, there are two detailed sidebars:

- DOWNLOADS:** Lists links for ModusToolbox 2.2 (Linux, macOS, Windows) and the ModusToolbox Installation Guide.
- RESOURCES:** Lists links for Bluetooth SDK 2.8 Release Notes, Bluetooth SDK 2.8 Technical Brief, ModusToolbox Bluetooth SDK Installation Notes, GitHub Code Examples, and GitHub Documentation.

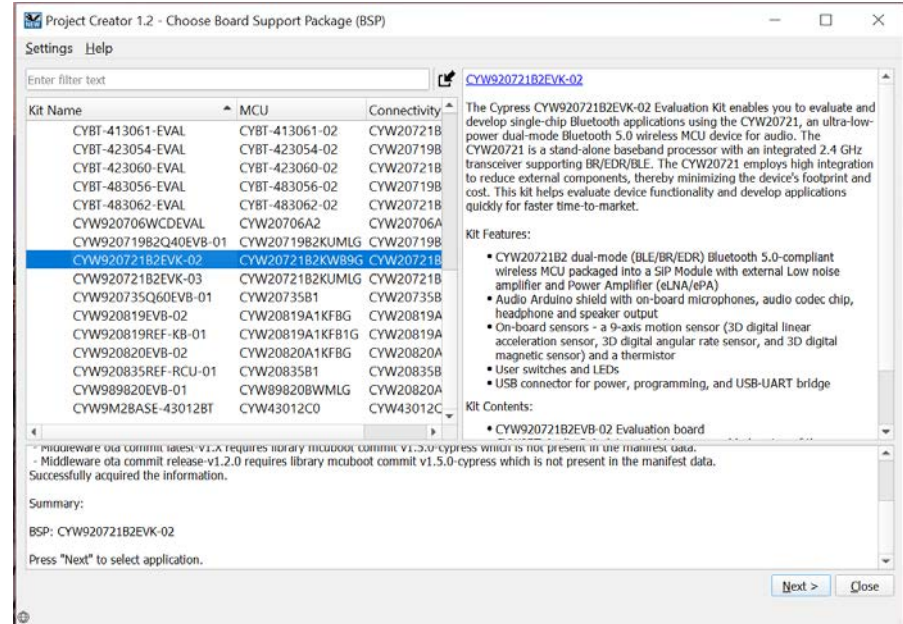


# Installing the Bluetooth SDK for Development

- › **Latest Guide on Developer Community:** <https://community.cypress.com/docs/DOC-19704>
- › **Note:** If a previous version of Bluetooth SDK 2.x was installed and needs be preserved, you will need to create a new workspace project in order to pull in the SDK and avoid overwriting previous versions
- › **Installation Steps**
  - Install ModusToolbox 2.2 (Installer for Windows, Mac OS, and Linux)
  - Within the IDE, click "New Application" link in the Quick Panel
    - Alternatively, you can select File → New → ModusToolbox IDE Application
  - This will launch the Project Creator
  - In Project Creator, click on "WICED Bluetooth BSPs"
  - Next, select the evaluation board you are using with Bluetooth SDK
  - Now you will select a template application
  - Click Create
  - Click Close

# Creating a Bluetooth SDK Application (1/3)

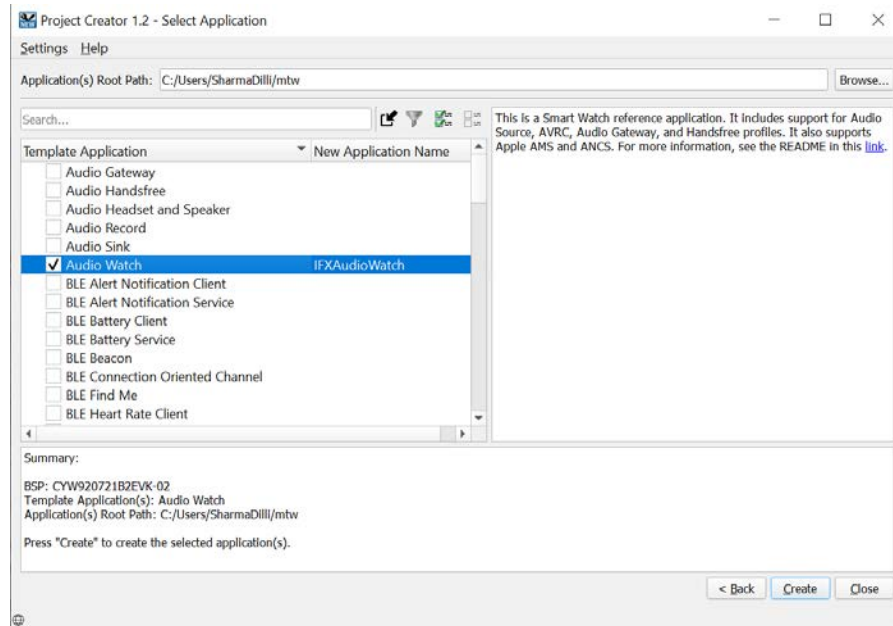
- › Launch New Application wizard ("Ctrl +7" shortcut in IDE) or click on "New Application" in the Quick Panel of the IDE
- › This launches the Project Creator
- › Select the Target Hardware (CYW920721B2EVK-02 in this case)
- › Click Next





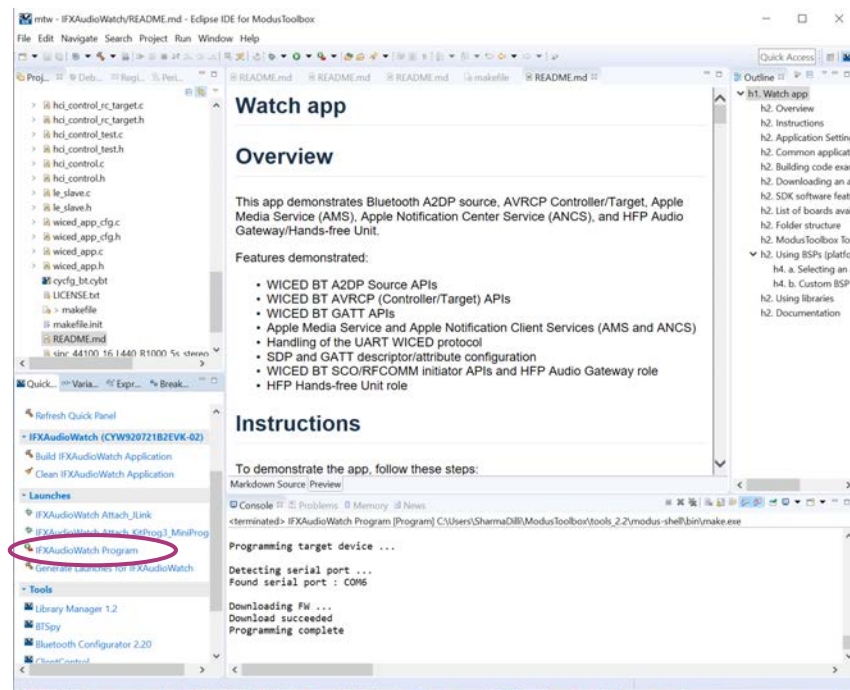
## Creating a Bluetooth SDK Application (2/3)

- › Select the code example of interest
  - Audio Watch is selected in this case
- › Choose a new application name if desired
- › Click Create in Project Creator
- › Once the action is complete, click Close to return back to the IDE



## Creating a Bluetooth SDK Application (3/3)

- › Connect the CYW920721B2EVK-02 to a PC with USB
  - Press and hold the 'Recover' button on the kit
  - Press and hold the 'Reset' button on the kit
  - Release the 'Reset' button on the kit
  - After one second, release the 'Recover' button
  - In the IDE quick panel, under Launches, select IFXAudioWatch Program
- › If download isn't successful, repeat the Recover & Reset procedure described above
- › After downloading the application, press the 'Reset' button on the kit





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