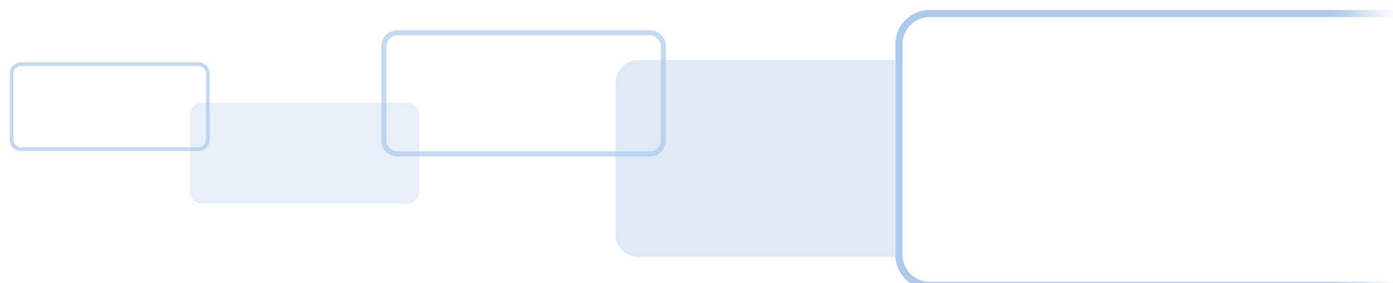




# **LUMIDIGM<sup>®</sup> M21X ANDROID SDK**

## **QUICK START GUIDE**

PLT-04563, Rev. A.0  
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## Revision history

Date	Description	Revision
September 2019	Initial release.	A.0

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# 1 Introduction

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This guide describes how to install and build the HID Global® Android BioSDKExample source code example. The example demonstrates Android application development using the HID Global Android BioSDK. Details are provided for Linux Ubuntu 18.04.2 LTS and Windows 10 x64 operating systems. Refer to *Lumidigm® M21x Android SDK Source Code Example* (PLT-04564) for detailed information about the source code example.

## 2 System requirements

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### 2.1 Linux Ubuntu 18.04.2 LTS x86\_64 (64-bit)

- 64-bit distribution capable of running 32-bit applications.
- GNU C Library (glibc) 2.19 or later.
- 3 GB RAM minimum, 8 GB RAM recommended (plus 1 GB for the Android Emulator).
- 2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE, plus 1.5 GB for Android SDK and emulator system image).
- 1280 × 800 minimum screen resolution.

### 2.2 Microsoft Windows 10 x64

- 3 GB RAM minimum, 8 GB RAM recommended (plus 1 GB for the Android Emulator).
- 2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE, plus 1.5 GB for Android SDK and emulator system image).
- 1280 × 800 minimum screen resolution.

### 2.3 Android Studio 3.4

- JRE 1.8.0\_152 amd64.
- OpenJDK 64-bit Server VM by JetBrains s.r.o.
- Minimum SDK version: 21 (Android 5 “Lollipop”).
- Minimum target SDK version: 28 (Android 9 “Pie”).
- Gradle 4.6.

## 3 Installation

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1. Ensure Android Studio 3.4 is installed. Follow the Android Studio installation instructions for your operating system, available from <https://developer.android.com/studio/install>.
2. Download and unzip the required file to an appropriate folder on your computer:
  - For Ubuntu, use **AndroidBioSDK\_v1.0.0.tar.gz**.
  - For Windows, use **AndroidBioSDK\_v1.0.0.zip**.

## 4 Build the BioSDKExample app

1. Open Android Studio.
2. Open an existing Android Studio project:
  - a. Navigate to the folder where you unzipped AndroidBioSDK\_v1.0.0.
  - b. Select the BioSDKExample.
  - c. Wait while Android Studio opens the project and Gradle synchronizes.
3. Select **Build > Make Project** or **Build > Make Module 'app'**.

**Note:** You may be prompted to install missing Android Studio SDK packages. Click through the license agreements to install the packages.

4. Deploy the app to the Android device.

**Note:** If the HID Global M21XApp is installed on the Android device, you must uninstall the M21XApp before deploying the BioSDKExample onto the Android device. This is because both apps have USB intent filters for the VID/PID of the M21x fingerprint sensor, and the two apps would compete for the M21x.

Ensure your device has the developer options enabled. Refer to:

<https://developer.android.com/studio/debug/dev-options.html> and <https://developer.android.com/studio/run/device#setting-up>

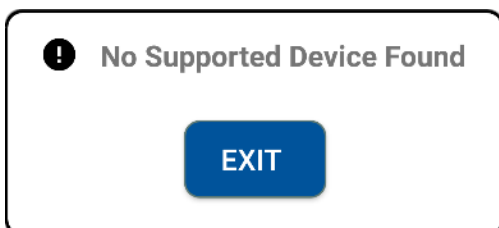
On Android 4.1 and lower, the **Developer options** screen is available by default.

On Android 4.2 and higher, it must be enabled:

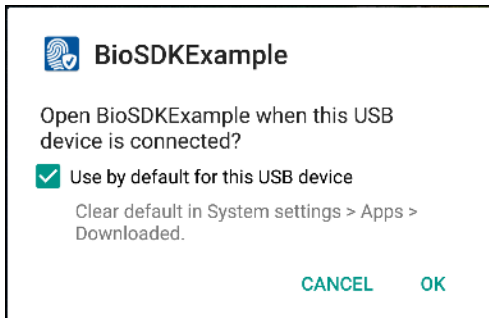
- a. Open the Settings app.
  - b. On Android 8.0 or higher, tap **System**.
  - c. Scroll to the bottom and tap **About phone**.
  - d. Scroll to the bottom and tap **Build number** seven times.
  - e. Return to the previous screen and tap **Developer options** near the bottom.
  - f. At the top of **Developer options**, toggle **OFF** to **ON**.
  - g. Enable **USB debugging**.
5. Connect the Android device to your computer.
  6. In Android Studio, select **Run > Run 'app'**.
  7. Select the Android device and click **OK**.

**Note:** You may be prompted to install Android Studio SDK Platform components for your device.

The BioSDKExample will start and display a dialog stating that no supported device has been found. This is expected, as the M21x sensor is not yet connected to the Android device.



8. Tap **EXIT** to close the app.
9. Disconnect the Android device from the computer.
10. Connect an HID Global M21x fingerprint sensor to the Android device, using an appropriate USB 2.0 adapter. The app will open automatically.
11. When the app opens, you are prompted three times to open the BioSDKExample when this USB device (M21x sensor) is connected, and to allow the BioSDKExample to access the USB device. For each of the three prompts, select “Use by default for this USB device” and tap **OK**. Now, whenever the M21x sensor is plugged into this Android device, the BioSDKExample will open automatically without any prompts.



12. After the application completes initialization, the enrollment screen is displayed.

Refer to *Lumidigm M21x Android SDK Source Code Example* (PLT-04564) for more information about the app.

