

PL2303G USB-to-Serial Controllers

Huawei Android USB Host API Solution

Demo Application User's Manual

(1-Port, GPIO, Flow Control & Multi-Port)



Prolific Technology has announced an Android-based Huawei AppGallery solution for connecting PL2303 USB-to-Serial devices to Huawei

Android-powered devices with [USB Host mode support](#) (see Figure 1-1).

The demo app is available on Huawei AppGallery and is not a native HarmonyOS application. This User's Guide explains how to install and run the demo apps included in the PL2303 Huawei Android USB Host API Java Library SDK.

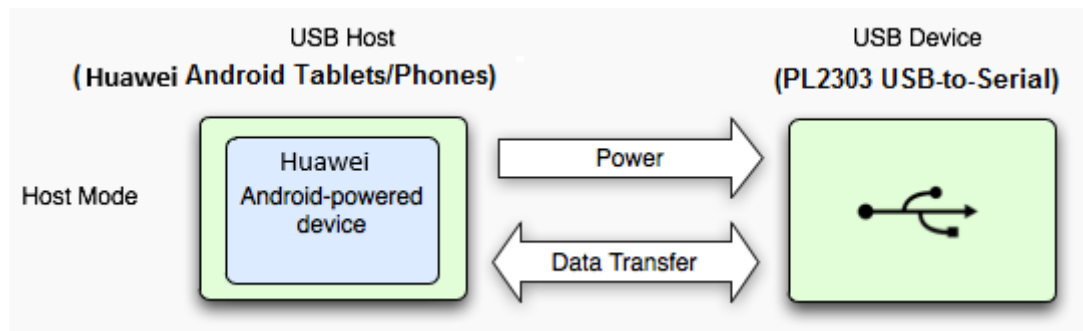


Figure 1-1: Android USB Host Mode

Minimum Requirements

- ✓ USB Device with PL2303G controller chip:
 - USB to Serial Cables/Adapters/Converters
 - USB GPS or PND (Portable Navigation Device)
 - USB Interface Health/Medical/Fitness Devices
 - USB POS Devices
 - Other USB-to-Serial (UART/RS232) Interface Devices
- ✓ Micro USB Host OTG Cable may be needed for Android Phones
- ✓ Huawei Android-Powered Device (Tablet/Phones) with USB Host Mode and [USB Host API Support](#)
 - Tested on Android 4.2.0; not intended for native HarmonyOS or HarmonyOS NEXT devices.
 - NOTE: A **Huawei smartphone** running Android 4.2.0 was used by Prolific for development and testing.
- ✓ Know-How in Java Programming and Android App Software Development

PL2303 Android Software Development Kit (SDK)

Prolific provides the following software package to support the development of PL2303 Android applications for Huawei Android-powered devices.

NOTE: Actual APK file names may include version numbers.

- ✓ **PL2303 Simple Test Android App Software** (`PL2303G_SimpleTest_Huawei.apk`)
 - This demo application detects the PL2303 device in Android and performs a simple test.
- ✓ **PL2303 GPIO A Test Android App Software** (`PL2303G_GPIO_A_Test_Huawei.apk`)
 - This demo application controls and tests GPIO A pins of PL2303 device.
- ✓ **PL2303 GPIO B Test Android App Software** (`PL2303G_GPIO_B_Test_Huawei.apk`)
 - This demo application controls and tests GPIO B pins of PL2303 device.
- ✓ **PL2303 Multi-Port Android App Software** (`PL2303G_Multi_SimpleTest_Huawei.apk`)
 - This demo application supports testing multiple PL2303 devices.
- ✓ **PL2303 Huawei Android Demo Application User's Manual**
 - Provides instructions for running the PL2303G SimpleTest, PL2303G GPIOActivity, and PL2303G MultiSimpleTest demo applications.
- ✓ **PL2303 Android Sample Source Codes**
 - Source codes for `PL2303G_SimpleTest_Huawei.apk`, `PL2303G_GPIO_A_Test_Huawei.apk`, `PL2303G_GPIO_B_Test_Huawei.apk`, and `PL2303G_Multi_SimpleTest_Huawei.apk`.
- ✓ **PL2303 Android Java Driver Library**
(`pl2303g_driver.jar` / `pl2303g_multilib.jar`)
 - PL2303 Android java driver libraries for single-port and multi-port applications.
- ✓ **PL2303 Android App Development Reference Document**
 - Reference document for developing Android application Software (`index.html`)

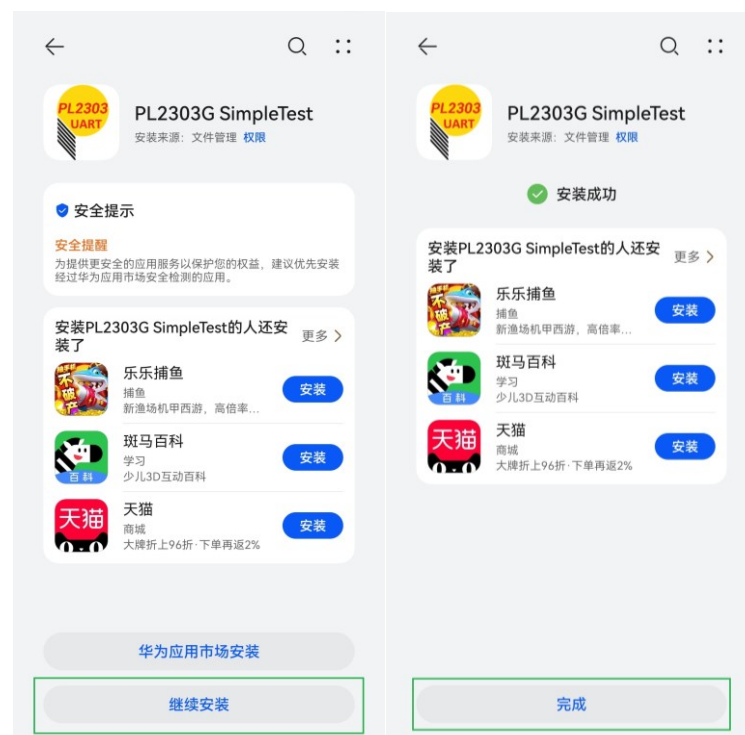
Demo App #1: PL2303G SimpleTest (For 1-Port Device)

This section describes how to install and run the PL2303G SimpleTest Android application on a Huawei Android-powered device using a single USB-to-Serial (RS-232 DB9) cable:

1. This app was verified on a Huawei Android 4.2 device with USB Host API support. Copy the APK from the SDK package and install it manually. Only one PL2303G device is supported.



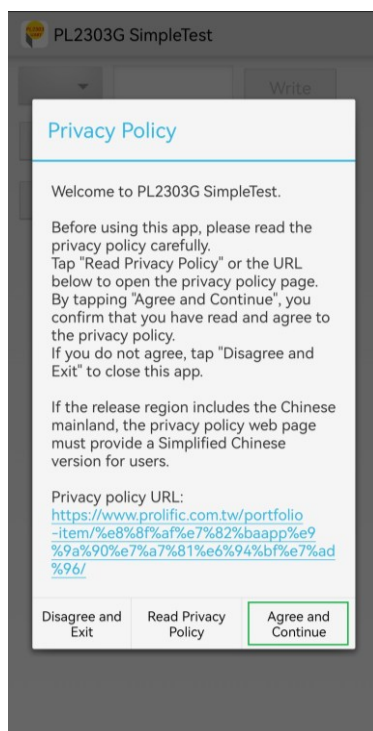
2. Click or tap on PL2303G_SimpleTest_Huawei.apk to install. Click Install to begin.



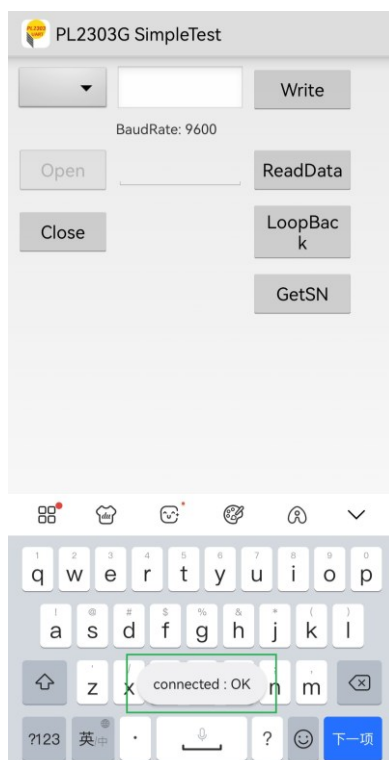
3. Plug in the PL2303 USB to Serial device. Click OK when prompted to allow the app to access the USB device. You can also first click enable “Use by default for this USB device”.



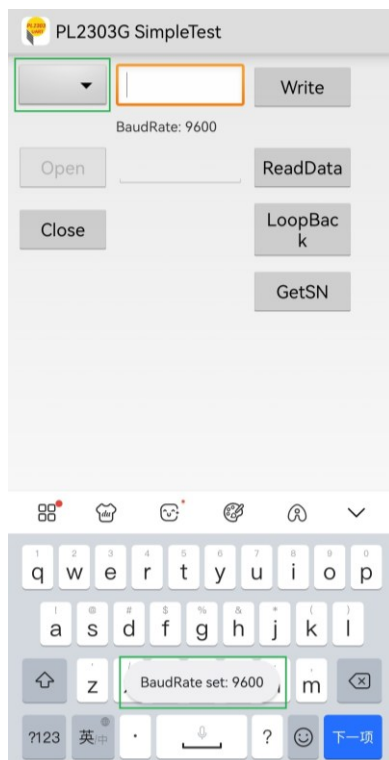
4. Please read the Privacy Policy before using this app.
Tap **Agree and Continue** to confirm that you accept the Privacy Policy and start using the app.



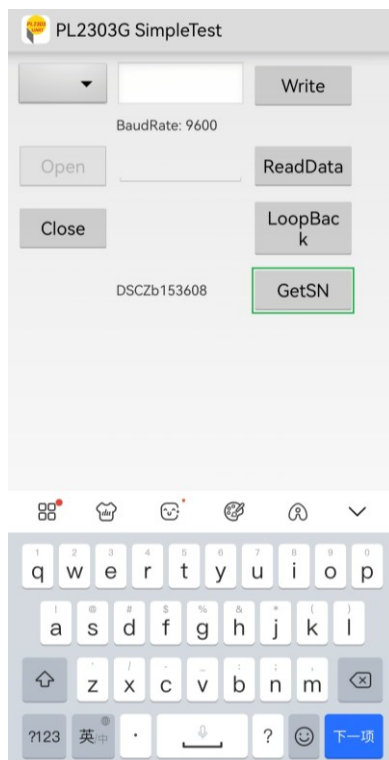
- When the PL2303 USB device is detected, a Connected/Attached message appears and the OPEN button is enabled; otherwise, reconnect the device and tap OPEN again.



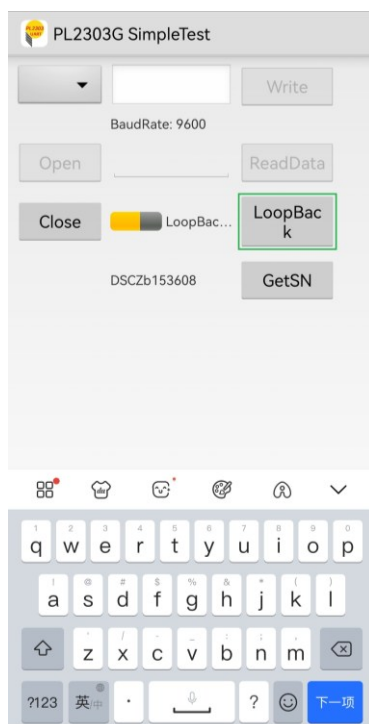
- The default baud rate is 9600 bps. You can select a different baud rate from the drop-down menu in the upper-left corner.



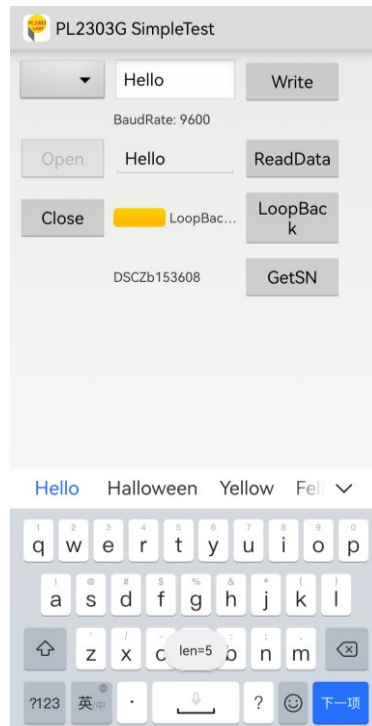
7. The PL2303GSimpleTest includes a “**GetSN**” button to read the Serial Number of PL2303 device. You can write Serial Number using PL2303G_OTP_EEPROM Writer program for Windows.



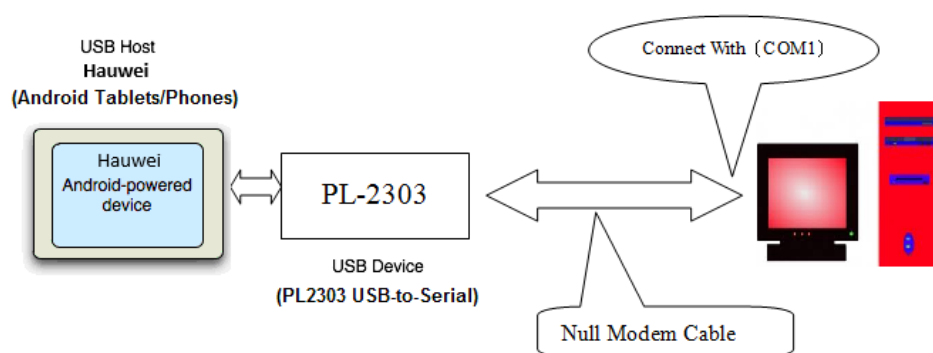
8. **Using Loopback Connector:** with the TX and RX pins shorted, then plug it into the USB-to-RS232 cable. Select the required baud rate and tap Loopback to start the test. Wait for the test to finish and check whether it passes.



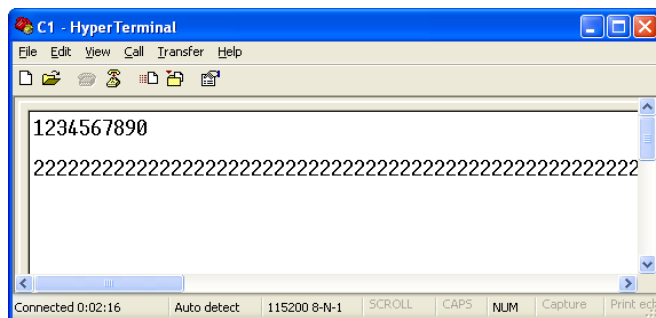
9. Another way is to type the keyboard on the Write box field and click Write button to send data (TX pin). Click ReadData button to read the data (RX pin) and check if the data are the same.



10. **Using Null Modem cable and Windows PC:** Plug a serial null modem cable to the PL2303 USB Serial cable and the other end to a RS232 COM port (or another PL2303 USB-Serial cable) of another computer. Run HyperTerminal or TeraTerm program on PC or other serial terminal program and open COM port.



Enter keyboard on Write box field and click Write. Check PC terminal program if data received.
Enter keyboard on terminal program and click ReadData button on Android app to receive data.



11. To run the Huawei app again, start over from **Step 1**; to uninstall it, press and hold the app icon, then tap **Uninstall**.

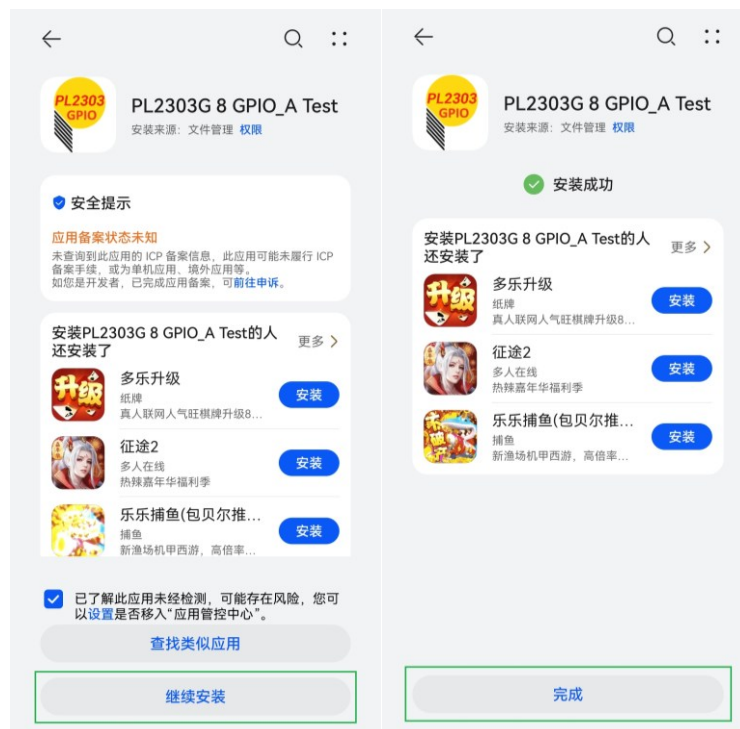
Demo App #2: PL2303G GPIO_A (For GPIO_A Control)

This section describes how to install and run the PL2303G GPIO_A Android application on a Huawei Android-powered device using a single PL2303G USB-to-Serial (RS232 DB9) cable:

1. This app was verified on a Huawei Android 4.2 device with USB Host API support. Copy the APK from the SDK package and install it manually. Only one PL2303G device is supported.



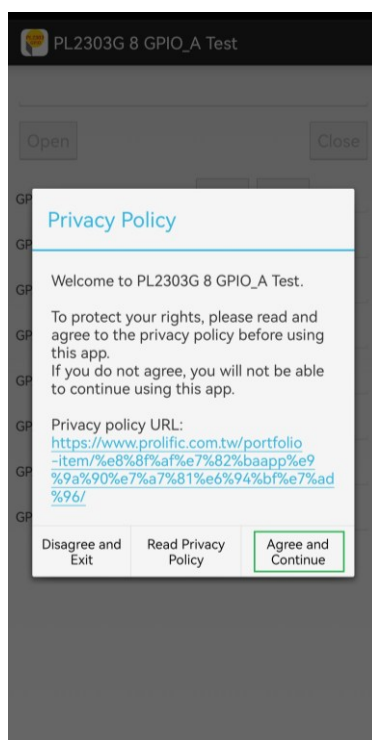
2. Click or tap on PL2303G_GPIO_A_Test_Huawei.apk to install. Click Install to begin.



3. Plug in the PL2303 USB to Serial device. Click OK when prompted to allow the app to access the USB device. You can also first click enable "Use by default for this USB device".



4. Please read the Privacy Policy before using this app.
Tap **Agree and Continue** to confirm that you accept the Privacy Policy and start using the app.



- If the PL2303 USB device is detected, the app will pop out an attached status message below.
If not, re-plug the device and click OPEN. Make sure you get an attached pop out message.



- Click Open to open the port for use and you will see a connected pop up message.



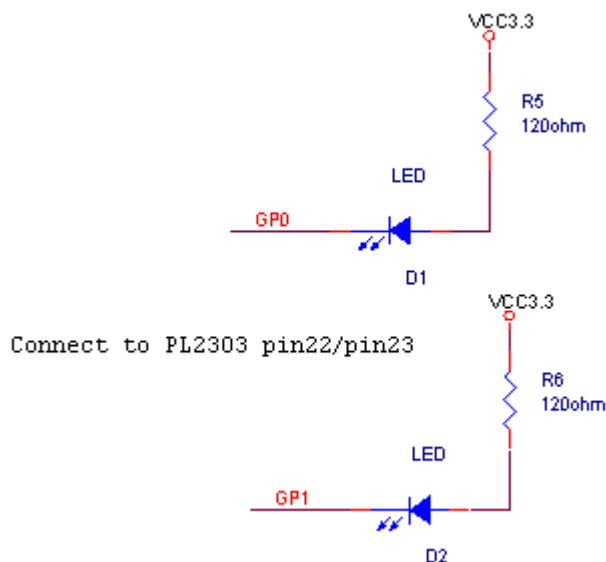
7. The menu provides eight GPIO_A settings, which is the maximum number of GPIO pins supported by the PL2303G chip. You can configure each GPIO_A pin, including Output Enable, Get Value, and Set Value (0 or 1). Refer to the sample source code in the SDK for details.

Note: The GPIO test LEDs (GP0 and GP1) on the PL2303G demo board are available for **GPIO_B** only.



8. To run the Huawei app again, start over from Step 1; to uninstall it, press and hold the app icon, then tap **Uninstall**.

For GPIO_B, the diagram below shows a simple example of connecting LEDs to the GP0 and GP1 pins (pins 22 and 23). In this example, the GPIO_B output pins are set to 0 (low) to turn on the LEDs.



Demo App #3: PL2303G_MultiSimpleTest (For Multi-Port PL2303 Devices)

This section describes how to install and run the PL2303G_MultiSimpleTest Android application on a Huawei Android-powered device using up to Eight (8) PL2303G USB-to-Serial (RS232 DB9) cables:

1. This app was verified on a Huawei Android 4.2 device with USB Host API support. Copy the APK from the SDK package and install it manually. The app supports up to Four(4) PL2303G devices.



2. Click or tap on PL2303G_MultiSimpleTest_Hauwei.apk to install. Click Install to begin.

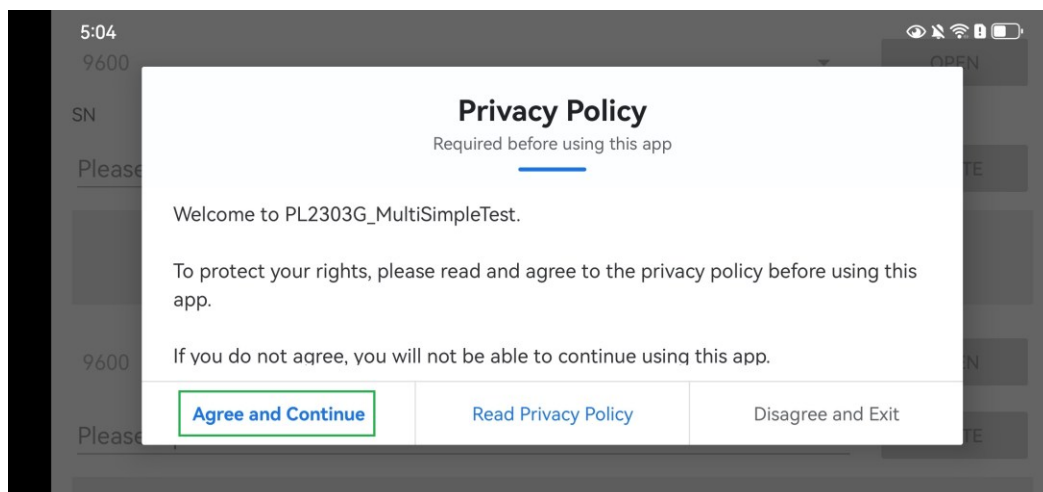


3. You will need to plug an external USB 2.0 hub first. Then plug in the first PL2303 device into the USB hub. Click enable "Use by default for this USB device". Then click OK when prompted to open and allow the app to access the USB device.

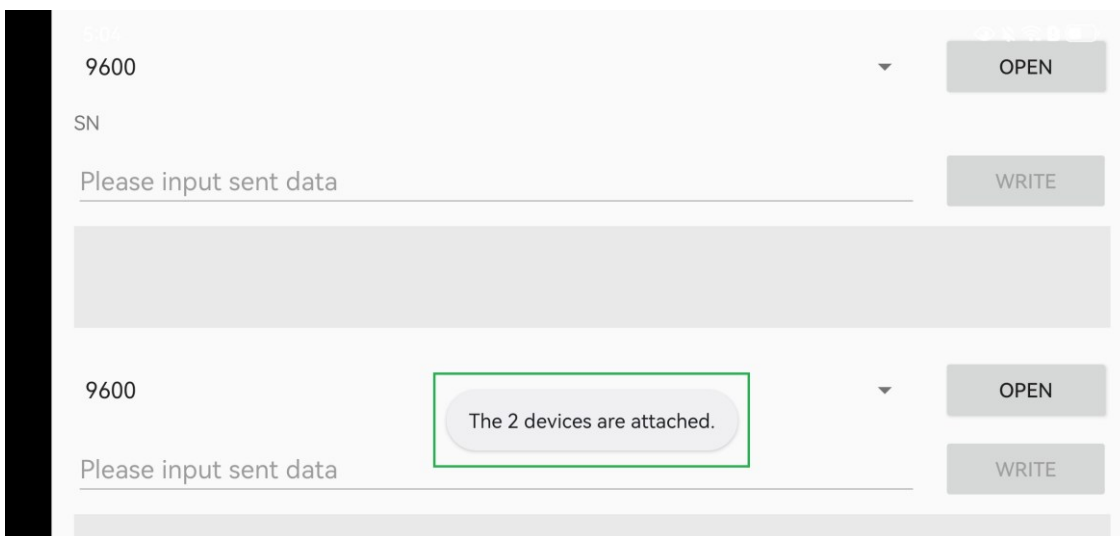


4. Please read the Privacy Policy before using this app.

Tap **Agree and Continue** to confirm that you accept the Privacy Policy and start using the app.

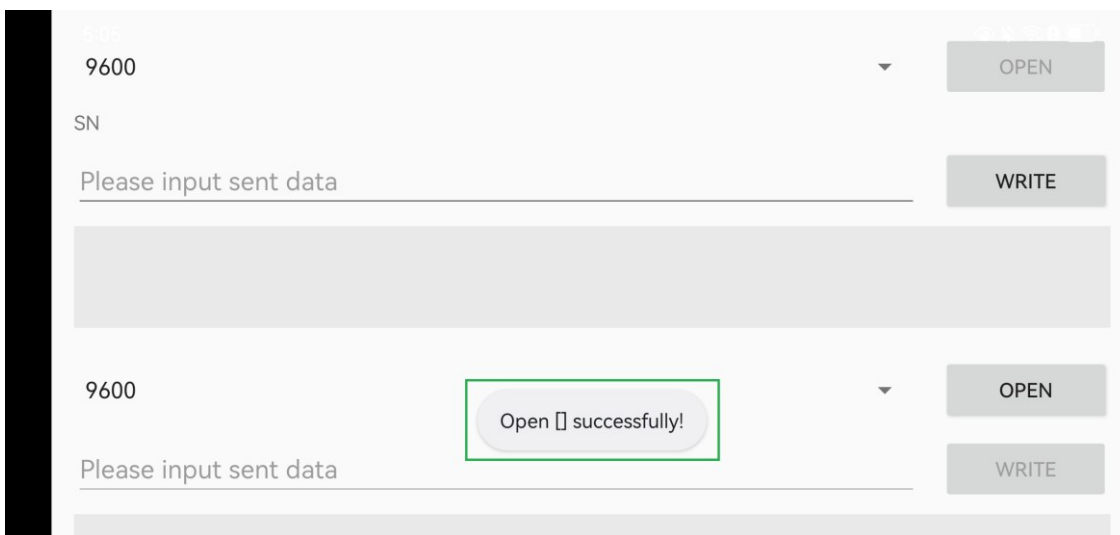


5. Plug the second PL2303 device, the app will pop out a message below saying the 2 devices are attached. If not, re-plug the PL2303 devices and click OPEN. Make sure to also plug a loopback connector (TX-RX pins short) to the PL2303 cable.



The screenshot shows the application interface with two device slots. Each slot has a dropdown menu set to '9600', a text input field labeled 'Please input sent data', and 'OPEN' and 'WRITE' buttons. A green-bordered message box is overlaid on the second slot, displaying the text 'The 2 devices are attached.'

6. Click Open on each port to open the ports for use. A pop up message will show when successful.



The screenshot shows the application interface with two device slots. Each slot has a dropdown menu set to '9600', a text input field labeled 'Please input sent data', and 'OPEN' and 'WRITE' buttons. A green-bordered message box is overlaid on the second slot, displaying the text 'Open [] successfully!'.

7. Set the baud rate, enter text in the input box, and tap Write. The text will be displayed below the input box. Refer to the sample source code for details on developing your own Huawei Android app.



8. To run the Huawei app again, start over from Step 1; to uninstall it, press and hold the app icon, then tap **Uninstall**.

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