

KFEI's Terminal + Application

User Manual

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1 Introduction

This document describes how to use "KFEI's Terminal App", an evaluation application for the Bluetooth low energy Application Embedded Module (KFSAB). The application can be downloaded from Google Play Store or App Store. Screenshots were taking using a Galaxy S21 5G with Android version 13 and iPhone SE with iOS version 16.3.1. The current application supports Android versions up to (13) and iOS versions up to (16.x).

2 Application

2.1 Application Start

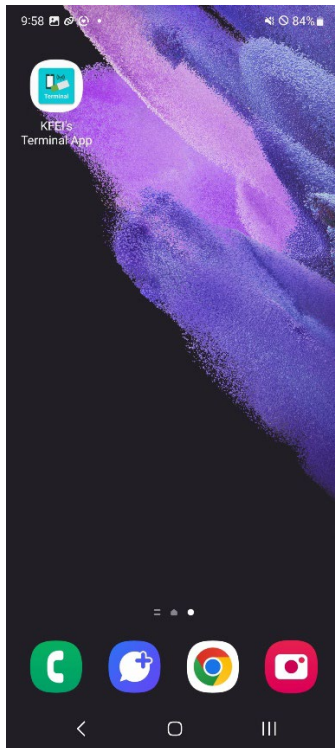


Figure 1: Application Icon

After the application has been installed into the device, the icon shown in Figure 1 should appear in the home menu of the device. When the application is launched, the application will ask for permission to access location information and to detect, connect, and locate devices and their relative positions. If device has Bluetooth disabled, a pop up will show up to ask you to enable the Bluetooth on application start by pressing the permission button on the pop up message.

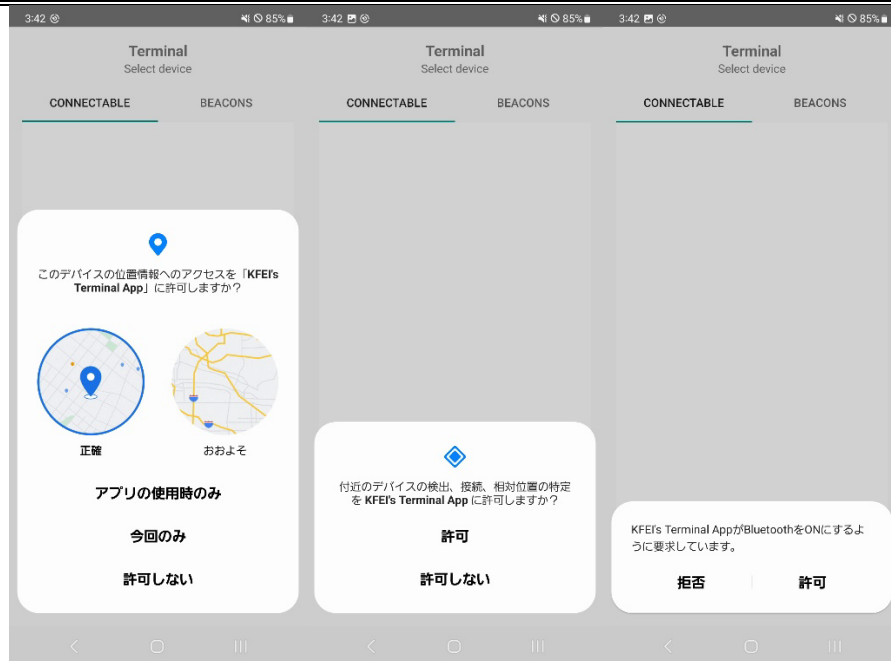


Figure 2: Device Permissions and Enable Bluetooth

2.2 Devices Screen

This screen will show all the connectable Bluetooth devices that are in the range of the iOS device. The RSSI of the Bluetooth devices will update every time a new advertising packet is received, if the RSSI value stops updating it might mean that the device is unreachable, or the device has stop advertising. The application will only connect to devices that have the KFSAB Terminal compatible firmware, pressing on devices with no compatible firmware will result in action.

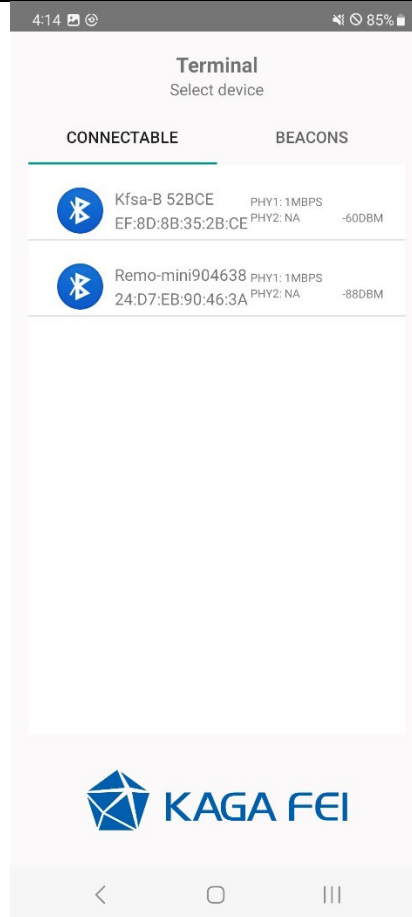


Figure 3: WLAN Settings

2.3 Terminal Screen

Once connected to the correct KFSAB Terminal device, the application will show the Terminal Screen.

In the terminal screen, the application will function as a normal terminal software application sending and receiving data from and to the device. Terminal settings can be found below the device name.

1MBPS : Select PHY(1MBPS/2MBPS/CODED)

ASCII : Select format(ascii/hex)

EOL:NONE(None/CR/LF/CR+LF)

CLEAR : Clear Screen

The data sent to the device is shown as bold text and the data received by the device is shown as not bold text.

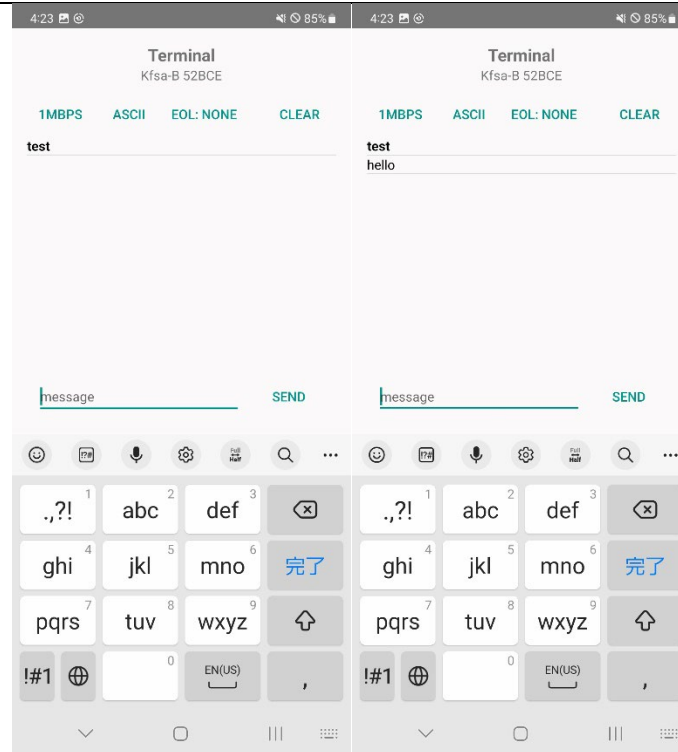
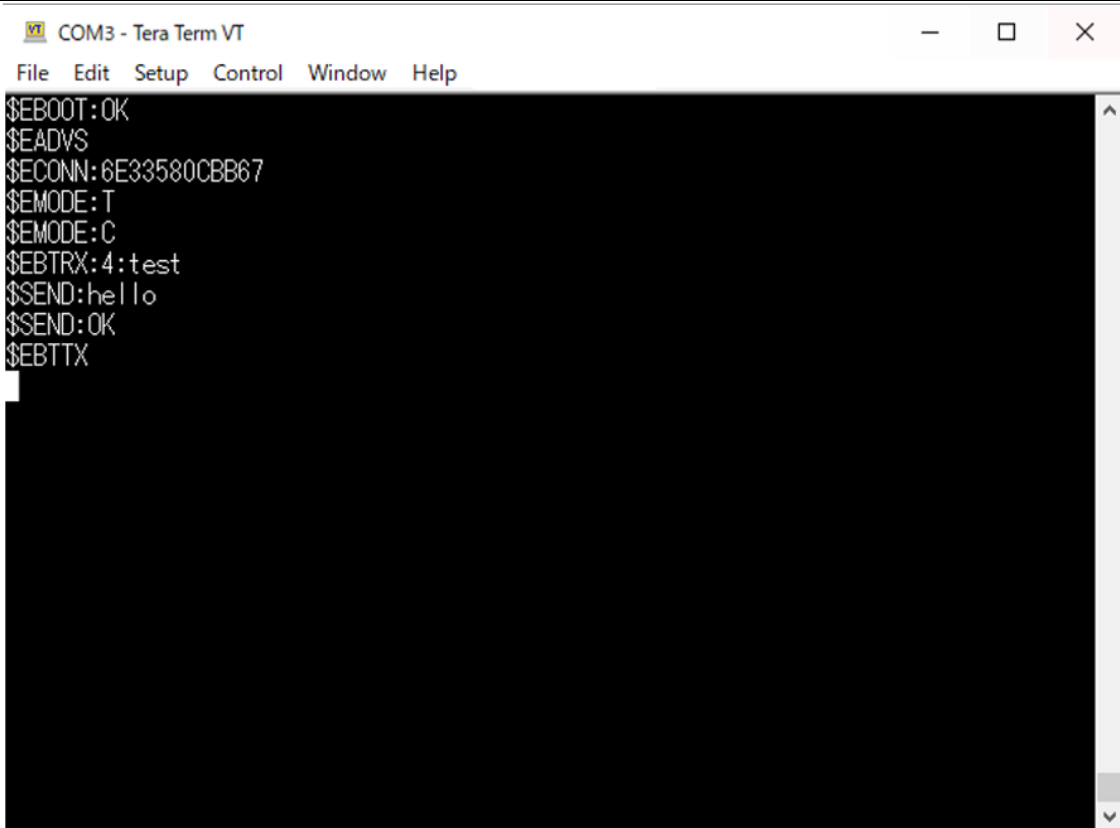


Figure 4: Bluetooth Settings

By using an external terminal software on a PC that has the KFSAB Terminal device connected such as "Realterm" or "TeraTerm", the user can send and receive the packets sent from the mobile device.



```
COM3 - Tera Term VT
File Edit Setup Control Window Help
$EBOOT:OK
$EADVS
$ECONN:6E33580CBB67
$EMODE:T
$EMODE:C
$EBTRX:4:test
$SEND:hello
$SEND:OK
$EBTTX
```

Figure 5: Tera Term connected to the KFSAB device

2.4 Beacons Screen

2.4.1 Android Beacon Screen

This screen will show all the devices outputting iBeacon format in the range of the mobile device. Any beacons that are not in the iBeacon format are excluded and will not show up on the beacon screen. The content displayed on the screen will be BD address, Proximity UUID, Major, Minor, Measured power, and RSSI.

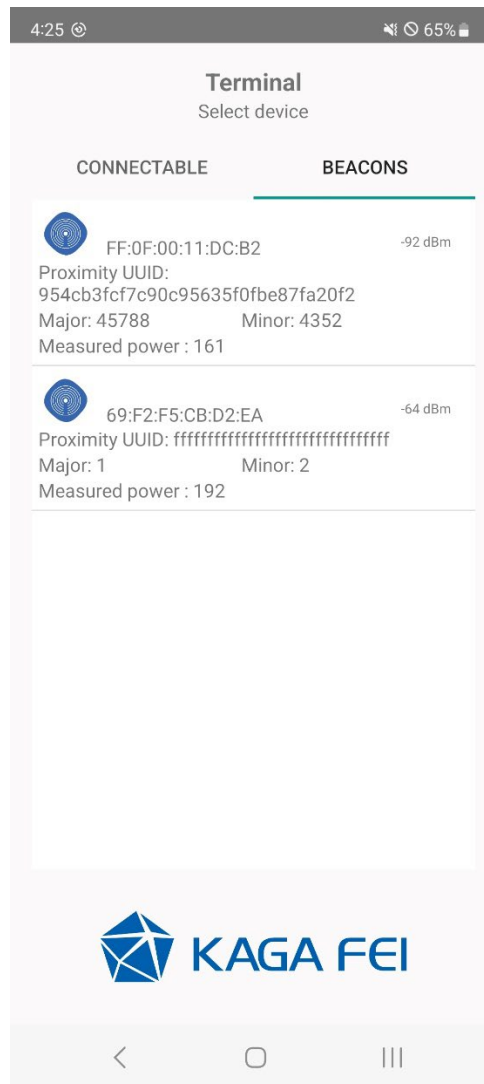


Figure 6 : Beacon Data (Android)

2.4.2 iOS Beacon Screen

The beacon screen will display iBeacon format output devices within range of the mobile device if they match the Proximity UUID specified in the app. Beacons in iBeacon format that do not match the specified Proximity UUID will be excluded and will not appear on the beacon screen.

To specify the Proximity UUID, tap "UUID" in the upper right corner of the image below and enter the UUID according to the format.

Note: Please enter hyphens to follow the format.

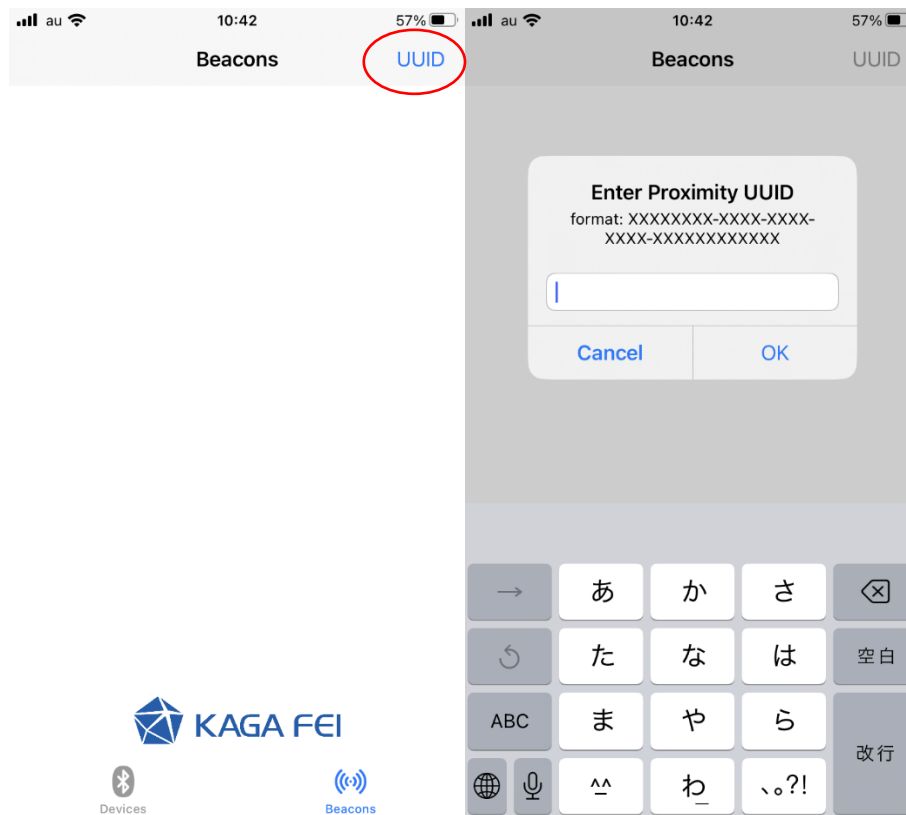


Figure 7 : iOS UUID Input

The content displayed on the screen will be Proximity UUID, Major, Minor, and RSSI.

Note: If the specified UUID is changed, it may take time to display data for the changed UUID. In this case, restarting the device may speed up the data display time.



Figure 8 : Beacon Data (iOS)

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