



# ***Android device with USB OTG support***

*Application Note*

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# 1 Introductions

This application note describes some of the options for connecting TSS COMPANY's UHF RFID USB readers to Android OS based smartphones or tablets.

## 2 Prerequisites

In order to connect Android OS based device and TSS COMPANY's UHF RFID USB reader and test it successfully, the following are required:

- Android OS based smartphone or tablet which supports USB OTG mode
- TSS COMPANY's UHF RFID USB reader (HUR 120, DUR 120) with firmware version 1.80 or later
- Micro USB OTG to USB 2.0 adapter
- FTDI UART Terminal utility

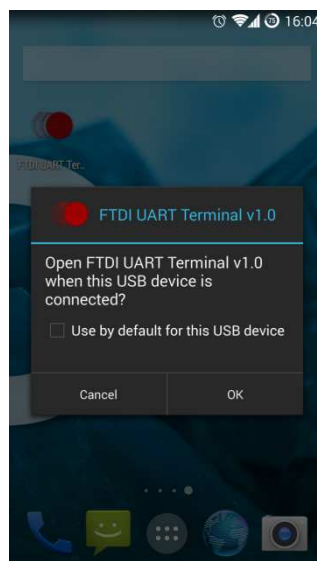
## 3 Walkthrough

### 3.1 Install application

Follow [AN 242 FTDI UART Terminal User Manual](#) to install the FTDI UART Terminal utility into your Android OS based device

### 3.2 Connect the reader

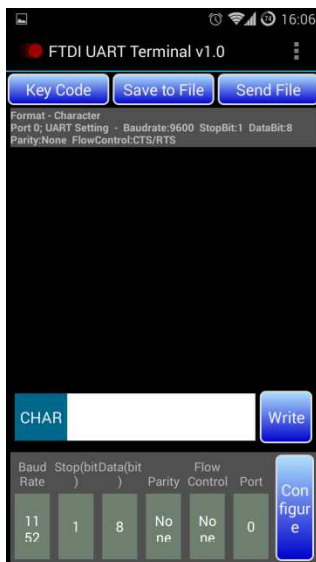
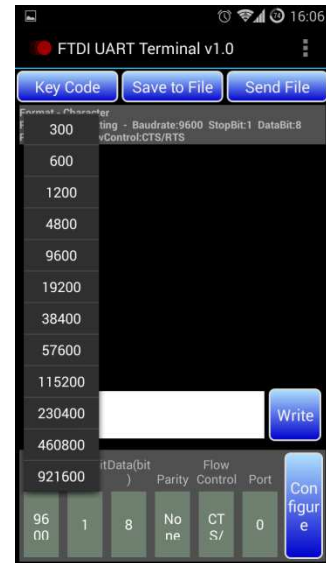
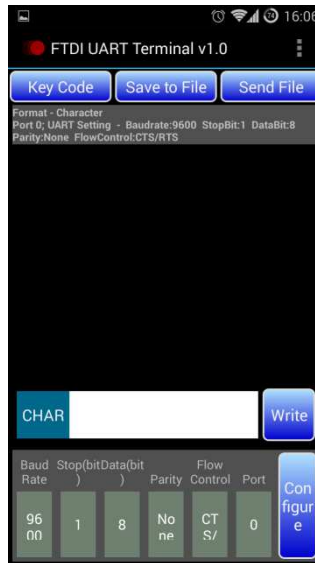
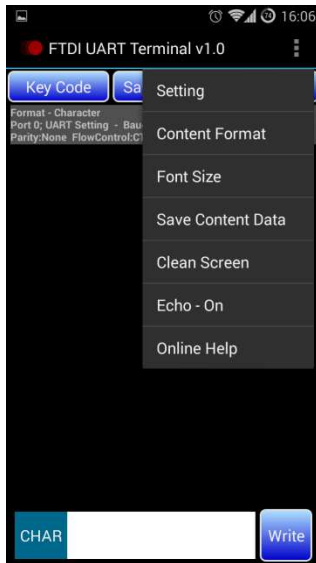
Connect the TSS COMPANY's UHF RFID USB reader to a Android OS based device with a micro USB OTG to USB 2.0 adapter. A notification message will appear. Tap the OK button. The FTDI UART Terminal utility will automatically start.



### 3.3 Configure the serial setting

Follow [AN 242 FTDI UART Terminal User Manual](#) to configure the serial setting with following settings:

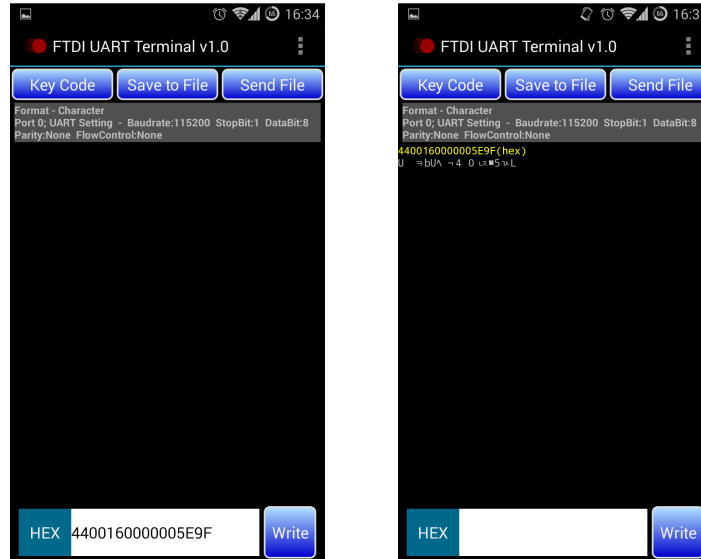
Baud Rate: 115200  
 Data Bits: 8  
 Stop Bits: 1  
 Parity: None  
 Flow Control: None



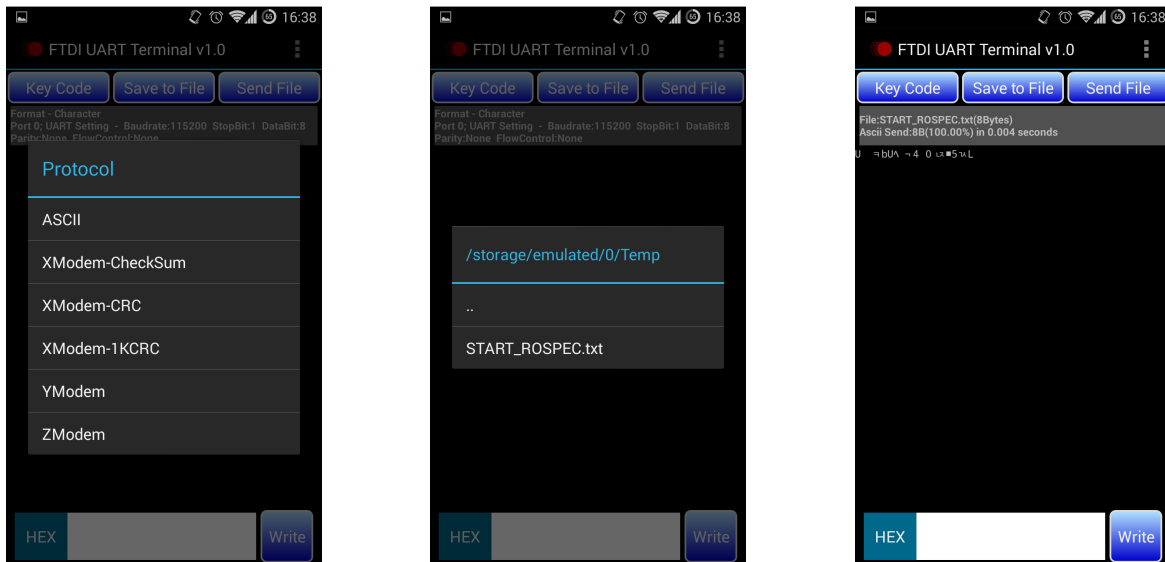
### 3.4 Communicate with the reader

Serial communication commands can be sent to the reader by directly typing the command into the input area of FTDI UART Terminal utility (option A)) or sending an ASCII TXT file which contain the particular command (option B)). The list of all supported serial commands can be found in URMSP Serial Communication Protocol Reference Manual.

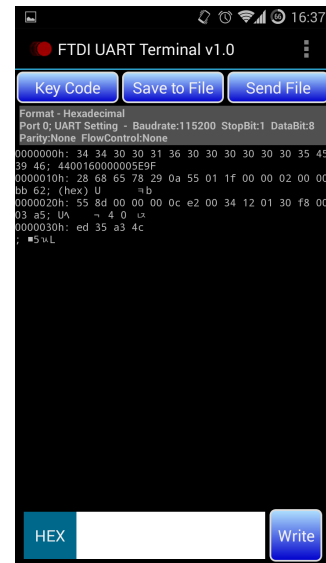
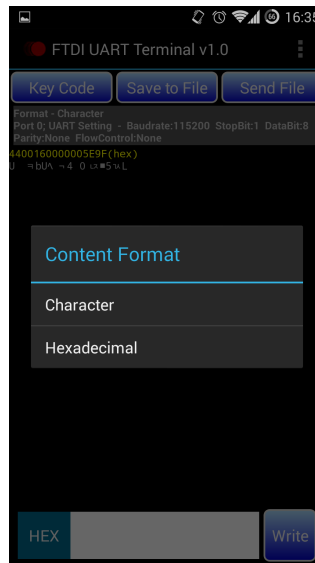
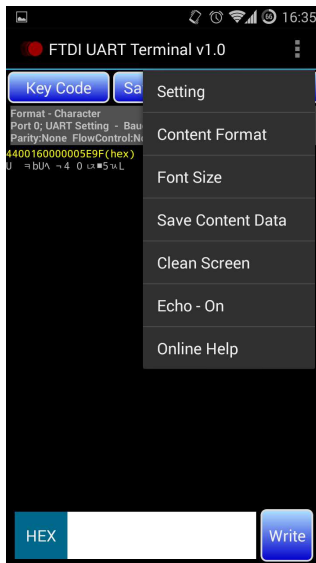
A)



B)



The format of data shown in the data area can be changed through Content Format menu.



## 4 Application development

User can develop their own Android application by using the FTDI D2XX Java API. More information can be found in [AN 233 Java D2xx for Android API User Manual](#) or please contact [hardware@tsscompany.eu](mailto:hardware@tsscompany.eu). A standalone API supporting TSS COMPANY's UHF RFID USB readers will be available later in 2015 (Q4 2015).

## 5 References

- [1] AN\_242\_FTDI\_UART\_Terminal\_User\_Manual  
[http://www.ftdichip.com/Support/Documents/AppNotes/AN\\_242\\_FTDI\\_UART\\_Terminal\\_User\\_Manual.pdf](http://www.ftdichip.com/Support/Documents/AppNotes/AN_242_FTDI_UART_Terminal_User_Manual.pdf)
- [2] TN\_147\_Java\_D2xx\_for\_Android  
[http://www.ftdichip.com/Support/Documents/TechnicalNotes/TN\\_147\\_Java\\_D2xx\\_for\\_Android.pdf](http://www.ftdichip.com/Support/Documents/TechnicalNotes/TN_147_Java_D2xx_for_Android.pdf)
- [3] AN\_233\_Java\_D2xx\_for\_Android\_API\_User\_Manual  
[http://www.ftdichip.com/Support/Documents/AppNotes/AN\\_233\\_Java\\_D2xx\\_for\\_Android\\_API\\_User\\_Manual.pdf](http://www.ftdichip.com/Support/Documents/AppNotes/AN_233_Java_D2xx_for_Android_API_User_Manual.pdf)
- [4] URMSP, Serial Communication Protocol, Reference Manual, Ver. 1.1, 03/2015