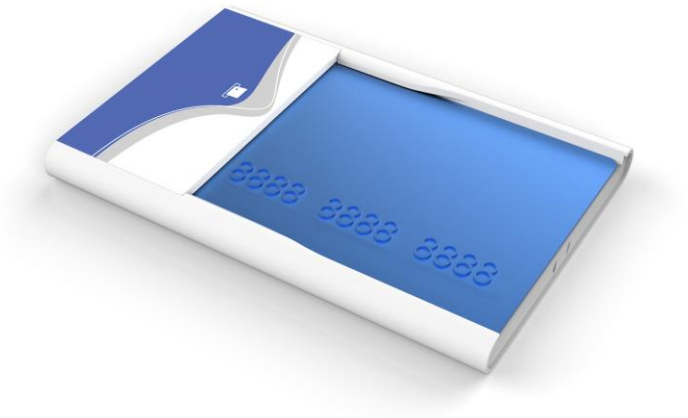
FEITIAN

BR500 AND BR301BLE ANDROID DEVELOPER GUIDE



Revision History:

Date	Revision	Description
September. 2015	V1.0	Release of the first version
December. 2015	V1.1	Add reader control API
March, 2016	V1.2	Add BR301BLE Support

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Contents

Chapter 1. Overview

This chapter describes how to develop bR500 and BR301BLE reader applications, including the development interfaces supported by the product (bR500 and BR301BLE) and how to develop applications based on these interfaces.

FEITIAN bR500 and BR301BLE is specially engineered to accommodate a range of smart card applications. Developers use it as a platform to generate and deploy related products and services. Moreover, FEITIAN bR500 and BR301BLE is a terminal unit which is seamlessly integrated to all major systems of operation. Additional features such as the built-in inclusive support for different smart card interfaces has facilitated the wide scale and cross industry adoption of bR500 and BR301BLE.

bR500 and BR301BLE suits customers where security concerns are the most salient and satisfies the demand for a flexible solution for ID authentication, e-commerce, e-payment, information security and access control.

bR500 and BR301BLE and the rest of FEITIAN’s line of smart card readers offer each customer a complete solution for all manner of utilizations.

Chapter 2. Definitions

2.1 Error codes

The following is a list of commonly used errors. Since different cards produce different errors they must map over to these error messages.

RETURN_SUCCESS = 0;
RETURN_ERROR = 0xFF01;
ERROR_RECEIVE_LRC = 0xf0;
PROTO_NOT_SUPPORT = -1;
IFD_COMMUNICATION_ERROR = 612;
IFD_NOT_SUPPORTED = 614;

TRANS_RETURN_ERROR = 0xF001;
BUFFER_NOT_ENOUGH = 0xF002;
NOMROEDATA = 0xF003;
TIMEOUT = 0xF004;
CARD_TIMEOUT = 0xF005;

CARD_STATUS = 0xE001;
CARD_PRESENT = 1;
CARD_UNKNOWN = 2;
CARD_ABSENT = 3;
READER_NOT_SUPPORT = 0xF003;

Chapter 3. API Reference

3.1 ft_reader

Synopsis:
public ft_reader (String address, Context c)
Parameters:
N/A
Description:
Constructor Detail.

Example:
Please follow sample code.

Returns:

3.2 isPowerOn

Synopsis:
public boolean isPowerOn()
Parameters:
N/A
Description:
This function use to provide power to card ,before PowerOn() ,please make sure the getCardStatus() retrun CARD_PRESENT(that means bR500 and BR301BLE find a card).

Example:
Please follow sample code.

Returns:
RETURN_SUCCESS = 0;
PROTO_NOT_SUPPORT = 1;
IFD_COMMUNICATION_ERROR = 612;
TRANS_RETURN_ERROR = 61441;

3.3 PowerOff

Synopsis:
public int PowerOff()

Parameters:
N/A
Description:
This function use to power off card.

Example:
Please follow sample code.

Returns:
RETURN_SUCCESS = 0;
PROTO_NOT_SUPPORT = 1;
IFD_COMMUNICATION_ERROR = 612;
TRANS_RETURN_ERROR = 61441;

3.4 getCardStatus

Synopsis:
public int getCardStatus()

Parameters:
N/A

Description:
Get card status:
CARD_PRESENT = 0;
CARD_UNKNOW = 1;
CARD_ABSENT = 2;

Example:
Please follow sample code.

Returns:
CARD_PRESENT = 0;
CARD_UNKNOW = 1;
CARD_ABSENT = 2;

3.5 transApdu

Synopsis:

public int transApdu(int tx_length,
byte[] tx_buffer,
int[] rx_length,
byte[] rx_buffer)

Parameters:

tx_length	IN	input data's length
tx_buffer	IN	input data
rx_length	OUT	return data's length
rx_buffer	OUT	return data from card

Description:

This function sends an APDU to the smart card contained in the reader. The card responds from the APDU and stores this response in rx_buffer and it's length in rx_length.

Example:

Please follow sample code.

Returns:

RETURN_SUCCESS = 0;
RETURN_ERROR = 0xFF01;
ERROR_RECEIVE_LRC = 0xf0;
PROTO_NOT_SUPPORT = -1;
IFD_COMMUNICATION_ERROR = 612;
IFD_NOT_SUPPORTED = 614;
TRANS_RETURN_ERROR = 61441;
BUFFER_NOT_ENOUGH = 61442;

Chapter 4. Card reader control API

4.1 getVersion

Synopsis:

public int getVersion (byte[] recvBuf,
int[] recvBufLen)

Parameters:

recvBuf	OUT	return data from reader
recvBufLen	OUT	return data's length

Description:

Get reader Firmware version::
recvBuf[0] The major version
recvBuf[1] The deputy version

Example:

Please follow sample code.

Returns:

4.2 getHardID

Synopsis:

public int getHardID(byte[] recvBuf,
int[] recvBufLen)

Parameters:

recvBuf	OUT	return data from reader
recvBufLen	OUT	return data's length

Description:

Get the serial No from card reader

Example:

Please follow sample code.

Returns:

4.3 getUserID

Synopsis:

public int getUserID(byte[] recvBuf,
int[] recvBufLen)

Parameters:

recvBuf	OUT	return data from reader
recvBufLen	OUT	return data's length

Description:

Get the user's ID from card reader

Example:

Please follow sample code.

Returns:

4.4 genUserID

Synopsis:

public int genUserID(byte[] sendBuf,
int sendLeng)

Parameters:

sendBuf	IN	input data
sendLeng	IN	input data's length

Description:

Let card reader to generate user's ID.

Example:

Please follow sample code.

Returns:

4.5 eraseUserID

Synopsis:

public int eraseUserID(byte[] sendBuf,
int sendLeng)

Parameters:

sendBuf	IN	input data
sendLeng	IN	input data's length

Description:

Let card reader to erase user's ID.

Example:

Please follow sample code.

Returns:

4.6 cmdReadFlash

Synopsis:

public int cmdReadFlash (byte[] recvBuf,
int offset,
int length)

Parameters:

offset	IN	The flash address offset
length	IN	The length to read
recvBuf	OUT	return data from reader

Description:

Read the card reader's flash.
Offset + length should be less than 255.

Example:

Please follow sample code.

Returns:

4.7 cmdWriteFlash

Synopsis:

public int cmdWriteFlash(byte[] `writebuf`,
int offset,
int length)

Parameters:

offset	IN	The flash address offset
length	IN	The length to write
recvBuf	IN	Input data

Description:

Write the card reader's flash.

Offset + length should be less than 255.

Example:

Please follow sample code.

Returns: