
1. In which method does SDK report the application to swipe or insert card?

`onRequestWaitingUser()`

【Note : To solve the stability problem of Bluetooth communication in complex environment, improve customer friendliness and the overall success rate of swiping card】

2. In which method does SDK report to the application about the result of swiping card or inserting card?

`public void onDoTradeResult(DoTradeResult result, Hashtable<String, String> decodeData);`

Enum DoTradeResult	Explanation
MCR	magnetic stripe card transaction
ICC	IC card transaction
NONE	No card detected
NOT_ICC	Not correct IC card
BAD_SWIPE	Swipe card badly,swipe again
NO_RESPONSE	No response
NO_UPDATE_WORK_KEY	Have not updated work key

3. In which method do we obtain the data of IC card transaction ,and what is the format of the data returned ?

`public void onRequestOnlineProcess(string tlv);`

An EMV transaction can either be online or offline. If online processing is required, then the **onRequestOnlineProcess** delegate method is triggered.

The format of the data returned is TLV.

The parameter TLV contains the tag-length-value data structure returned by the EMV kernel.

Decode the TLV data like this :

```
Hashtable<String, String> decodeData = mPos.anlysEmvIccData(tlv);
```

The keys of the Hashtable<String, String> above:

track3Length	expiryDate	trackksn	serviceCode
track2Length	iccdData	maskedPAN	pinBlock
pinRandomNumber	encTrack3	psamNo	cardSquNo
iccCardAppexpiryDate	encPAN	posID	cardholderName
trackRandomNumber	encTrack1	formatID	encTracks
track1Length	encTrack2	pinKsn	

iccdData : 55-Domain data

encTrack2 : equivalent to the encrypted track2 data

expiryDate :the expirydate of card

cardSquNo: the squence number of IC card

4. What should we do after receiving the IC card transaction result returned from the bank?

When the processing results are returned from the payment operator, it should send the results back to EMV kernel by
`sendOnlineProcessResult()`.

If transaction permitted by the payment operator :

`sendOnlineProcessResult("8A023030"+"55-Domain data");`

If transaction not permitted by the payment operator :

`sendOnlineProcessResult("8A023035"+"55-Domain data");`

5.List the methods related to IC card transaction?

`onDoTradeResult()`

`onRequestTime()`

`onRequestDisplay()`

`onRequestIsServerConnected()`

`onRequestOnlineProcess()`

`onRequestBatchData()`

`onRequestTransactionResult()`

`onRequestSelectEmvApp()` (Please refer to the 13th question)

6. Which method do we use to connect the bluetooth device?

`connectBluetoothDevice()`

In which callback method do we get the result of connecting successfully ?

`onRequestQposConnected()`

In which callback method do we know that we failed to connect the bluetooth device?

`onRequestNoQposDetected()`

7.Which method do we use to disconnect the bluetooth device?

`disconnectBT()`

In which callback method do we get the result of disconnecting successfully?

`onRequestQposDisconnected()`

8. In which method do we set transaction amount and transaction type ?

`setAmount()`

Normal Transaction Example :

```
public void onRequestSetAmount() {  
    mPos.setAmount("1", "", "156", TransactionType.GOODS);  
}}
```

Remaining sum Inquiry Example :

```
public void onRequestSetAmount() {  
    mPos.setAmount("", "", "156", TransactionType.INQUIRY);  
}}
```

Parameter Illustration :

```
setAmount(String amount, String cashbackAmount, String currencyCode,  
TransactionType transactionType)
```

amount: transaction amount,if amount=1,represents 0.01Yuan;
amount=100,represents 1Yuan.The max length of transaction amount is 8.
cashbackAmount: “”
currencyCode: RMB code: 0156
TransactionType:
The most commonly used TransactionType: GOODS、INQUIRY

9.Which method do we use to update workKey?

updateWorkKey()

Example :

```
pos.updateWorkKey(  
    "4BA1F7D630CB998E4BA1F7D630CB998E", "82E13665B4624DF5", //PIN KEY  
    "4BA1F7D630CB998E4BA1F7D630CB998E", "82E13665B4624DF5", //TRACK KEY  
    "4BA1F7D630CB998E4BA1F7D630CB998E", "82E13665B4624DF5", //MAC KEY  
    0,5);
```

Parameter Illustration :

```
updateWorkKey(String pik, String pikCheckValue,  
               String trk, String trkCheckValue,  
               String mak, String makCheckValue,  
               int keyIndex, int timeout)
```

Pik: Encrypted PinKey, pikCheckValue: PinKey checkValue,
trk: Encrypted TrackKey, trkCheckValue: TrackKey checkValue,
mak: Encrypted MacKey, makCheckValue: MacKey checkValue,
keyIndex: Index number of workKey, timeout: Time out

【Note:The length of the standard CheckValue is 16 , 8 bytes totally.

If your CheckValue is less than 8 bytes , please add 0 at the end】

In which callback method do we get the updating result?

onRequestUpdateWorkKeyResult()

10. In which method do we get the result of swiping card

successfully?

```
public void onDoTradeResult(DoTradeResult result, Hashtable<String, String> decodeData);
```

From the return of 'onDoTradeResult' , the APP can find out whether consumer use an EMV ICC card or a magnetic card.

When the delegate method "**onDoTradeResult**" is triggered to return the "Enum DoTradeResult" result, if this result is **MCR**, the APP will trigger the magnetic transaction flow.

What is the format of the data returned from the callback method ?

HashTable<String, String>

The keys of the Hashtable<String, String> above:

track3Length	expiryDate	trackksn	serviceCode
track2Length	encTracks	maskedPAN	pinBlock
pinRandomNumber	encTrack3	psamNo	ksn
partialTrack	encPAN	posID	cardholderName
trackRandomNumber	encTrack1	formatID	track1Length
encTrack2	pinKsn		

pinBlock : encrypted pin

encTrack2 : encrypted track2 data

serviceCode : if the code starts with 2 or 6, it indicates that this card has the function of IC card.

11. In which callback method does the ICC transaction triggered?

```
public void onDoTradeResult(DoTradeResult result, Hashtable<String,  
String> decodeData);
```

From the return of 'onDoTradeResult' , the APP can find out whether consumer use an EMV ICC card or a magnetic card.

When the delegate method "**onDoTradeResult**" is triggered to return the "Enum DoTradeResult" result, if this result is **ICC**, the APP will trigger the EMV ICC transaction flow.

12. How to reset the pos device ?

```
resetPosStatus()
```

13. How to turn on the BlueTooth function of the mobile phone?

```
Intent BT= new Intent(BluetoothAdapter.ACTION_REQUEST_ENABLE);  
startActivity(BT);
```

14. Here is a callback method which is needed to pay extra attention.

It depends on the card type,if the card has more than one application,this callback method will be invoked?

The APP should prompt the user to select one application and then call the selectEmvApp method.

Example :

```
onRequestSelectEmvApp(ArrayList<String> appList){  
pos.selectEmvApp(0); }
```

15.What is the function of the callback method: onRequestDisplay() ?

Function : prompt the users depending on the current transaction state.

Enum Display	Explanation
PLEASE_WAIT	Please wait
REMOVE_CARD	Please remove card
TRY_ANOTHER_INTERFACE	Please try another interface
PROCESSING	Transaction is proceeding
INPUT_PIN_ING	Please input pin now
MAG_TO_ICC_TRADE	Please insert chip card on pos

16.What is the function of the callback method: onError() ?

Function : prompt the users depending on the current transaction error.

Enum Error	Explanation
CMD_NOT_AVAILABLE	Command not available
TIMEOUT	Pos no response
DEVICE_RESET	Pos reset
UNKNOWN	Unknown error
DEVICE_BUSY	Pos busy
INPUT_OUT_OF_RANGE	Input out of range
INPUT_INVALID_FORMAT	Input invalid format
INPUT_ZERO_VALUES	Input are zero values
INPUT_INVALID	Input invalid
CASHBACK_NOT_SUPPORTED	Cashback not supported

CRC_ERROR	CRC Error
COMM_ERROR	Communication Error
MAC_ERROR	MAC Error
CMD_TIMEOUT	CMD Timeout