



# **Technical Specifications on Bankcard Interoperability**

## **(Version 2.0)**

**Part VI Annex**

**April 2010**

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## Using this Document

### Purpose

This *Annex* is one of the six parts comprising the *Technical Specifications on Bankcard Interoperability*. The document describes the specifications on the code definitions, transaction types, relevancy on transaction message, support of IC card transactions, clearing and reconciliation, and conversion of specification version..

### Audience

The audience of this manual are the staff from China Unionpay (hereinafter referred to as CUP) and CUP Network Participants.

### Time Expressed

CUP has operation centers in several locations including Shanghai, Beijing and Hong Kong. For operational purpose, the time frame in this manual, unless particularly indicated, refers to “Beijing time”.

Coordinated Universal Time (UTC) is the basic measuring time throughout the world. Beijing time is 8 hours ahead of UTC. Also, there is no Daylight Saving Time in China.

Unless otherwise specified, the Day in this Volume refers to the calendar day and the Business Day refers to the working day subject to local regulations of the country where the processing Participant is located.

### Replacement

The April 2010 version replaces your existing document.

### Revisions

CUP will periodically issue revisions to this document as enhancements and changes are implemented, or as corrections are required. Occasionally, revisions or additions to this document will be published in an *Operations Bulletin*.

Please refer to the Summary of Revisions for changes reflected in this version.

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## Summary of Revisions

The change listed below is associated with the **April 2010** version.

Description of Change	Where to look
<b>Revised</b> -Response Codes are revised.	Appendix A.2
<b>Deleted</b> -Message reason codes 1000, 1001, 1002, 1006, 1010, and 1776 to 1797 are deleted.	Appendix A.4.3
<b>Deleted</b> -Reject code 058, 062, 063, 066, 073 to 089、095、097, 099, 103, and 104 are deleted.	Appendix A.4.2.3
<b>Revised</b> -The length of Reject 060 is revised as 100.	Appendix A.4.2.3
<b>Revised</b> -Country/Region and Currency Codes are updated.	Appendix A.5
<b>Revised</b> -03 is added in Field 60.2.5 Value for manual cash withdrawal in Table B.1.	Appendix B.1
<b>Added</b> -Manual cash withdrawal is added in Table B.2.	Appendix B.2
<b>Added</b> -Installment payment is added is Table B.1.	Appendix B.1
<b>Added</b> -Installment payment is added is Table B.2.	Appendix B.2
<b>Deleted</b> -The content of relevancy on transaction message is deleted.	
<b>Deleted</b> -The content of explanation on clearing and reconciliation (Participants inside Mainland of China use only) is deleted.	
<b>Deleted</b> -Guide for migrating to version 2.0 from previous version (Participants inside Mainland of China use only) is deleted.	

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## Appendix A Code Definitions

The messages between CUP system and each Participant are defined according to the *ISO 8583: 1987*.

The content in this Appendix will be updated according to the change of the Participants and merchants' information.

### A.1 Institution Identification Number

The Institution Identification Number (IIN) is used to uniquely identify Acquirers, Issuers and CUPS, or messages forwarders. It usually refers to the following data elements:

Field 32: Acquiring Institution Identification Number

Field 33: Forwarding Institution Identification Number

Field 99: Settlement Institution Identification Number

Field 100: Receiving Institution Identification Number

#### A.1.1 Definition of IIN

IIN is a variable-length data element defined in ISO 8583 with the length indicator of 08.

#### A.1.2 Participants inside Mainland of China

1-4 digits: institution code (please see *Table A.1*)

5-8 digits: region code (the region codes in *National Standards of the People's Bank of China GB13497/92 – National Clearing Coding System* are used) Headquarters of nationwide Participants use 0000. Branches of nationwide Participants and local Participants use the region codes of local clearing centers.

XXXX

XXXX

Institution code

Region code (4-digit clearing center code)

#### A.1.3 Participants outside Mainland of China

1-4 digits: institution code (please see *Table A.3*)

5-8 digits: region code (0 + 3-digit country/region code)

XXXX

XXXX

Institution code

Region code (0 + 3-digit country/region code)

The region code for the overseas branches of the Participants inside Mainland of China adopts 0 + 3-digit country/region code.

### A.2 Response Codes

Under the following conditions, the Participant must use the applicable response codes.

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
00	Approved or completed successfully	Approve	Successful transaction		√	√	√
01	Refer to card Issuers	Decline	The cardholder should contact the Issuer.	If the transaction is rejected because of the Issuer, the response code can be used only when it is required to contact the Issuer.	√	√	√
03	Invalid merchant	Decline	Invalid merchant	Exceptional MCC; This card is not allowed for this transaction at such kind of merchant (MCC); This merchant is in the blacklist.	√	√	√
04	Pick-up	Pick-up	This card is picked up.	The Issuer believes that the card should be captured.			√
05	ID certification fails	Decline	The cardholder's certification fails.	1. The transaction information of the online transaction is sent and received beyond the time limit. 2. The cardholder identity certification fails (for transactions like entrusting relationship or online transaction). 3. certificate information (in terms of type, number and so on) does not comply with the		√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				<p>requirement.</p> <p>4. The time difference between security information and transaction information evaluated by the switching center exceeds 24h.</p> <p>5. The birth date of the cardholder verification fails.</p>			
10	Approved for partial amount	Approve (notification shall be prompted)	Display the approved partial amount and prompt the operator.	It is used in the transaction with approved partial amount.			√
11	VIP	Approve	It is a VIP client.	The Issuer prompts to the Acquirer that it is a VIP client.			√
12	Invalid related transaction	Decline	Invalid transaction	<p>1. The original transaction has not been accepted; however, a transaction such as reversal transaction and cancellation transaction, related to the original transaction is received.</p> <p>2. The transaction that should occur every other day does not occur every other day.</p> <p>3. The cancellation or reversal are conducted for original transaction every other day.</p>	√	√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				4. The transaction has not been executed, but the information of related transaction is received (for example, the pre-authorization transaction has not been accepted, but the pre-authorization completion or pre-authorization cancellation transaction is received).			
13	Invalid amount	Decline	Invalid amount	0 or other unallowable values are filled in the amount field, for the transactions which should be with valid amount; Transferred payment amount limit or cash payment amount limit is exceeded; The transaction exceeds the consumption proportion; The tip amount is beyond the limit The institution is unable/cannot conduct the transaction of this currency;	√	√	√
14	Invalid card number (no such account)	Decline	Invalid card number	1. The Issuer has no such primary account number. 2. Though the original transaction is located, the primary account	√	√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				number of the related transaction does not match with that of the original transaction. 3. The check-digit of the card number is incorrect. 4. The account has become invalid or cancelled. 5. The primary account number of response transaction does not match with that of request transaction.			
15	No such Issuers	Decline	This card has no corresponding Issuer.	It is unable to find the corresponding Issuer according to the primary account number requested by the transaction.		√	
16	Approved to update track 3	Approve	Update the third magnetic track.	Reserved			
21	Card not initialized	Decline	This card has not been initialized or it is a dormant card.	1. This card has not been activated or opened; 2. The initial password of this card has not been changed; 3. It is restricted to process transactions by the initial password; 4. The card frozen because of not being used for a long period of time or the card in the "dormant" status.			√
22	Suspected	Decline	Operation error	Exceptional related	√	√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
	malfunction; related transaction error		or exceeding the allowable days for transaction	transaction; the following situations are included: 1. After the reversal to one transaction has been completed, its cancellation is received. 2. After the current transaction has been cancelled, the related transaction (such as reversal or cancellation) is received. 3. After pre-authorization cancellation transaction has been completed, pre-authorization completion transaction is received. 4. After pre-authorization reversal transaction has been completed, pre-authorization completion transaction is received. 5. After the pre-authorization completion transaction has been completed, a request for pre-authorization completion of the same			

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				pre-authorization transaction is received. 6. The transaction date of pre-authorization transactions (including pre-authorization completion and pre-authorization cancellation) exceeds the allowable days for pre-authorization transaction. 7. Exceed the normal payment time.			
25	Unable to locate original transaction	Decline	There is no original transaction and please contact the Issuer.	The following situations are included: 1. The original transaction cannot be located with the error in matching with original request transaction 2. Matching with original pre-authorization and authorization transactions fails. 3. The reversal transaction request is unable to match with the original transaction. 4. when it is used during the fee deduction, cancellation and	√	√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				entrustment change, there is no entrusting relationship.			
30	Format error	Decline	Please retry it.	<p>the following situations are included:</p> <ol style="list-style-type: none"> <li>1. The message field that should appear as stipulated does not appear in the message.</li> <li>2. The transaction channel value is not in the definition of specification.</li> <li>3. Error in field analysis</li> <li>4. Error in sub-field analysis</li> <li>5. Failed field examination</li> <li>6. Illegal character appears in the field</li> <li>7. The bitmap in the received message does not comply with the definition of specification.</li> <li>8. Error in the magnetic track information</li> <li>9. There is no transaction amount in the transaction where the transaction amount should appear.</li> <li>10. Bitmap 3 information appears in the magnetic stripe</li> </ol>	√	√	√



Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				card transaction.			
34	Fraud	Pick-up	Fraudulent card; pick up card	This card is suspected for fraud (including ARQC check error); the card can be captured by ATM or picked up by the operator for the following situations: 1. The times of CVN errors is beyond the limit to card capture; 2. The card has been counterfeited.			√
38	PIN try limit exceeded	Decline	The times of PIN errors is beyond the limit, and please contact the Issuer.	The times of pin errors is beyond the limit, and the account has been locked. The cardholder should go to the Issuer for unlocking.			√
40	Function requested not supported	Decline	Transaction that is not supported by the Issuer	That functions are not supported by the institution includes the following situations: 1. The Issuer has not started such transaction. 2. The transaction type can be determined according to the message of the Participant; however, such transaction has not been opened to the public now. 3. The Participant can determine the transaction type		√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				<p>according to the received message; however, such transaction is not included in the authority list or special authority list of the receiver.</p> <p>4. The transaction type can be determined according to the message of networked institution; however, the message version of the receiver does not support it.</p> <p>5. For one IC card transaction, the receiver is in Early state and the receiver does not require the check of ARQC.</p>			
41	Lost card	Pick-up	<p>The card has been reported for the loss, and captured (ATM).</p> <p>Lost card, please pick up it (POS).</p>	Lost card; capture it			√
43	Stolen card	Pick-up	<p>This card has captured. Please contact the Issuer (ATM).</p> <p>Stolen card, please pick up it (POS).</p>	The Issuer confirms that this is a stolen card. Capture it.			√
51	Insufficient balance	Decline	Insufficient available balance	The available balance in the account and the credit limit are			√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				insufficient, and the amount is beyond the limit for cash withdrawal.			
54	Expired card	Decline	The card is expired	Expired card. The expiration date is incorrect.			√
55	Incorrect personal identification number	Decline	Wrong PIN	The PIN verification is not passed.			√
57	Transaction not allowed to be processed by cardholder	Decline	This card is not allowed for transaction.	<p>The situations in which the Issuer does not allow the transaction because of the credit and risk, etc. of the cardholder, including but not limited to:</p> <ol style="list-style-type: none"> <li>1. The type of card cannot be used for such transaction.</li> <li>2. It is out of the service scope.</li> <li>3. That type of card cannot be accepted.</li> <li>4. Deposit cannot be conducted with corporate card.</li> <li>5. This account does not include this kind of currency.</li> <li>6. This card is suspected for cash-out by illegal means.</li> <li>7. The card number or certificate number is in the blacklist.</li> </ol>	√	√	√
58	Transaction not allowed to	Decline	The Issuer does not allow this	1. The Issuer restricts the related	√	√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
	be processed by terminal		card to be used for this transaction at this terminal.	transactions to be carried out at such kind of terminals (it may focus on some card BIN). 2. The terminal number in the related transaction does not match with that in the original transaction.			
59	Suspected fraud	Decline	Error in the card verification	CVN verification fails.		√	√
61	Transaction amount limit exceeded	Decline	The transaction amount exceeds the limit.	The transaction amount is beyond the limit, including but not limited to: 1. Exceed single purchase limit/exceed ATM single cash withdrawal limit 2. ATM daily consecutive cash withdrawal/POS daily purchase amount are beyond the limit 3. Exceed single withdrawal/purchase limit defined by the cardholder 4. Exceed the transfer limit	√	√	√
62	Restricted card	Decline	Restricted card	Restricted card (for the reasons such as the restriction of acceptance service area); no need to capture it.		√	√
64	Original transaction amount error	Decline	The transaction amount does not match with the	1.The transaction amount in the request message does not	√	√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
			original transaction amount.	match with that in the response message (except for partial fee deduction situations); 2. The transaction amount in the related transaction message does not match with that in the original transaction message (except for partial fee deduction situations)			
65	Exceeds withdrawal velocity limit	Decline	Exceed the limit for times of withdrawal	1. Exceed the limit for times of withdrawal/purchase on the current day. 2. Exceed transferred payment times accumulation/exceed cash payment times accumulation			√
68	Issuer response time-out	Decline	Transaction time-out, please retry it.	The receiver has not received the response from the Issuer within the time limit.			√
75	Allowable number of PIN tries exceeded	Decline	The times of PIN errors exceeds the limit.	The times of PIN try errors exceeds the limit.			√
90	Cutoff is in process	Decline	The daily cutoff of the system is conducted. Please retry it later.	The daily switch is being conducted.		√	√
91	Issuer not capable to process	Decline	Exceptional Issuer status, please retry it later.	It is used to indicate that the transaction is rejected due to the error of Issuer (or transfer-in side/transfer-out side),		√	√

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				such as the following conditions: 1. The operation of the Issuer (or transfer-in side/transfer-out side) is exceptional. 2. The operation of the Issuer (or transfer-in side/transfer-out side) is exceptional; however, no stand-in authorization agreement is signed with CUP Information Switch Center. 3. The Issuer (or transfer-in side/transfer-out side) signs out but does not sign in. 4. The operation status of the Issuer (or transfer-in side/transfer-out side) is invalid. 5. The Issuer (or transfer-in side/transfer-out side) is closed by CUP Information Switch Center. 6. The connectivity of the Issuer (or transfer-in side/transfer-out side) is exceptional. 7. The internal system of Issuer (or			

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				transfer-in side/transfer-out side) is time out.			
92	Financial institution or intermediate network facility cannot be found for routing	Decline	The connectivity of Issuer is exceptional. Please retry it later.	1. There is no available connectivity line. 2. Error in IP address format and port number of CUP Information Switch Center or network participant	√	√	√
94	Duplicated transaction	Decline	Reject, transaction duplicated. Please retry it later.	1. It is used to detect that the original transaction is a duplicated transaction; 2. When the entrustment is established, it is found that the entrusting relationship has already existed. 3. The serial number of transaction is repeated.	√	√	√
96	Switch system malfunction	Decline	Reject, the switching center exceptional. Please retry it later.	It is used to indicate that the transaction is rejected due to the error of CUP Information Switch Center, which should be generated by CUP. The following situations may be included: CUP Information Switch Center is unable to conduct the normal processing,		√	

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				and the internal processing failures (such as abnormal database operation, abnormal shared memory operation and abnormal function operation) have occurred. 2. CUP Information Switch Center is in maintenance and rejects all requests.			
97	ATM/POS terminal number can not be located	Decline	The terminal number has not been registered.	The terminal number has not been registered.	√	√	
98	Issuer response not received by CUPS	Decline	The Issuer is time out.	1. The Issuer is time out. 2. The transfer-out side is time out. 3. The receiving response is time out.		√	
99	PIN Block Error	Decline	Error in PIN format. Please re-sign in.	Error in PIN format.	√	√	√
A0	MAC failed	Decline	Error in MAC verification. Please re-sign in.	Failure in MAC verification	√	√	√
A1	Currency not match for transferring	Decline	The transferred currencies are not consistent.	The transferred currencies are not consistent.	√	√	√
A2	Successful transaction with fault	Approve	The transaction is successful. Please confirm it with the fund transfer-in bank.	CUP Information Switch Center has forwarded the original transfer-in/deposit/re mittance transaction requests; however, as the response from the		√	



Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				Issuer has not been received, CUP Information Switch Center directly responds to the acceptor for the successful transaction with fault.			
A3	Account not found in Transfer-in side	Decline	The account number of the fund transfer-in bank is incorrect.	There is no such account in the fund transfer-in bank.			√
A4	Successful transaction with fault	Approve	The transaction is successful. Please confirm it with the fund transfer-in bank.	When the requests for original transfer-in/ deposit/remittance transactions have not been received, the acceptance of the confirmed related transaction is a successful transaction with fault.			√
A5	Successful transaction with fault	Approve	The transaction is successful. Please confirm it with the fund transfer-in bank.	When the original transfer-in/ deposit/ remittance transactions are rejected, the acceptance of the confirmed related transaction is a successful transaction with fault.		√	√
A6	Successful transaction with fault	Approve	The transaction is successful. Please confirm it with the fund transfer-in bank.	CUP Information Switch Center has forwarded the original transfer-in/deposit/ remittance transaction requests, but the response from the		√	

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				Issuer has not been received, the acceptance of the confirmed related transaction transmitted by the acceptor is a successful transaction with fault.			
A7	Security processing failure	Decline	Failure of security processing	1. Failure of calling MAC verification program 2. Failure of calling PIN verification program 3. Error in PIN conversion 4. Failure of MAC generation 5. Failure of key generation 6. Failure of key activation 7. Failure of key reset 8. Failure of ARPC generation 9. Failure when the processing of MAC is exceptional	√	√	√
B1	No arrears (transaction receipt not printed)	Decline	No debt for this service	It is used during the inquiry of expenses.	√		
C1	Illegal Status of Acquirer	Decline	The state of Acquirer is illegal.	It is used to indicate that the transaction is rejected due to the error of Acquirer, such as the following situations: 1. The Acquirer signs		√	

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				out. 2. The operation status of the Acquirer is invalid. 3. The Acquirer has not signed in.			
D1	Incorrect IIN			Error in institution code	√	√	√
D2	Date Error			Error in date	√	√	√
D3	Invalid file type			Invalid file type	√	√	√
D4	File processed			Processed files	√	√	√
D5	No such file			There is no such file.	√	√	√
D6	Not supported by Receiver			The receiver does not support it.	√	√	√
D7	File locked			The file has been locked.	√	√	√
D8	Unsuccessful			Unsuccessful	√	√	√
D9	Incorrect file length			The length of file is inconsistent.	√	√	√
DA	File decompression error			Error in file decompression	√	√	√
DB	File name error			Error in file name	√	√	√
DC	File can not be received			It is unable to receive the file.	√	√	√
F1	File record format error			The record format does not meet the specification requirements.		√	
F2	File record repeated			Repeated with existing record		√	
F3	File record not existing			There is no record required to be operated.		√	
F4	File record error			Error in other operations for the record		√	

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
N1	Items not on Bankbook beyond limit, declined	Decline	The unregistered account exceeds the limit.	The unregistered account has exceeded the limit, and the transaction is unsuccessful.			√
Y1		Approve		The offline transaction is successful (only used for IC cards based on CUPIC debit/credit standard. Please refer to <i>Part III File Interface</i> for the concrete usage.)	√		
Y3		Approve		It is unable to be online. The offline transaction is successful (only used for IC cards based on CUPIC debit/credit standard. Please refer to <i>Part III File Interface</i> for the concrete usage.)	√		
Z1		Decline		The offline transaction fails (only used for IC cards based on CUPIC debit/credit standard. Please refer to <i>Part III File Interface</i> for the concrete usage.)	√		
Z3		Decline		It is unable to be online. The offline transaction fails (only used for IC cards based on CUPIC debit/credit standard. Please refer	√		

Response Code	Description	Action	Terminal Display (recommended)	Applicable Condition	Applicable Party		
					AC	SW	IS
				to Part III File Interface for the concrete usage.)			

### A.3 Message Reason Code

Message reason code is used in Field 60.1 in the message or to submit disputed transactions manually, indicating the reason for the transaction. Please refer to applicable business rules if the definition is changed.

Table A.29 Message Reason Code

Code	Description	Application
Reason for advice message instead of request message		
1004	Terminal processed	Not applicable for this stage
1005	ICC processed	Not applicable for this stage
Reason for request message instead of advice message		
1500	ICC application unable to process	Not applicable for this stage
1502	ICC random selection	Not applicable for this stage
1503	Terminal random selection	Not applicable for this stage
1504	Terminal not able to process ICC	Not applicable for this stage
1505	On line forced by ICC	Not applicable for this stage
1506	On line forced by card acceptor	Not applicable for this stage
1507	On line forced by CAD	Not applicable for this stage
1508	On line forced by terminal	Not applicable for this stage
1509	On line forced by card Issuers	Not applicable for this stage
1510	Over floor limit	Not applicable for this stage
1511	Card acceptor suspicious	Not applicable for this stage
Reason for Representment		
2000	Invalid Chargeback	Representment Message
2100		Manual Representment
2001	Invalid acquirer's reference number on chargeback, documentation was received or was not required	Representment Message
2101		Manual Representment
2002	Non-receipt of supporting documentation	Representment Message
2102		Manual Representment
2003	Correct transaction date provided	Representment Message
2103		Manual Representment
2004	Invalid Acquirer's reference number on Chargeback,	Representment Message

Code	Description	Application
	documentation was received	
2005	Correct card acceptor	Representment Message
2105	location/description provided	Manual Representment
2006	Incorrect Chargeback date	Representment Message
2007	Transaction did not exceed merchant floor limit	Representment Message
2008	Transaction Authorized by Issuers	Representment Message
2108		Manual Representment
2009	Correct original transaction amount	Representment Message
2010	No proof can prove that the amount has been modified	Representment Message
2011	Credit previously issued	Representment Message
2012	Invalid original transaction	Representment Message
2104, 2106, 2107, 2109—2120 reserved for manual Representment		
Reason for reversal		
4003	Format error, no action taken	Reversal Message
4004	Completed partially	Reversal Message
4005	Original amount incorrect	Reversal Message
4006	Response received too late	Reversal Message
4007	Card acceptor device unable to complete transaction	Reversal Message
4008	Deposit out of balance	Reversal Message
4010	Payment out of balance	Reversal Message
4011	Deposit out of balance/applied contents	Reversal Message
4012	Payment out of balance/applied contents	Reversal Message
4013	Unable to deliver message to terminal	Reversal Message
4014	Suspected malfunction/card retained	Reversal Message
4015	Suspected malfunction/card returned	Reversal Message
4016	Suspected malfunction/track 3 not updated	Reversal Message
4017	Suspected malfunction/no cash dispensed	Reversal Message
4018	Timed-out at taking money/no cash dispensed	Reversal Message
4019	Timed-out at taking card/card	Reversal Message

Code	Description	Application
	retained and no cash dispensed	
4020	Invalid response, no action taken	Reversal Message
4021	Timeout waiting for response	Reversal Message
(4351—4499) ISO reserved for private use		
4351	Terminal-generated reversal (full amount)	Reversal Message
4352	Terminal-generated reversal (partial amount)	Reversal Message
4353	Acquirer received late response from CUPS	Reversal Message
4354	Acquirer detected time-out	Reversal Message
4355	Acquirer detected incorrect MAC from response message	Reversal Message
4356	Acquirer not able to send operating command to terminal	Reversal Message
4360	CUPS received late response from card Issuers	Reversal Message
4361	CUPS waiting for Issuer's response until time-out	Reversal Message
4362	CUPS detected incorrect MAC from Issuer's response message	Reversal Message
4363	CUPS unable to forward Issuer's response message to Acquirer	Reversal Message
4364	CUPS unable to forward request to transfer-in party	Reversal Message
4365	Dispenser out of notes	Reversal Message
4366	Refused by transfer-in	Reversal Message
Reason for Chargeback (first and second)		
4501	Non-disbursement or partial disbursement of cash at ATM	Chargeback Message
4601		Manual Chargeback
4502	Non-receipt of goods or services	Chargeback Message
4602		Manual Chargeback
4503	Dispute on Debit Adjustment	Chargeback Message
4603		Manual Chargeback
4507	Cardholder dispute-transaction amount differs	Chargeback Message
4607		Manual Chargeback
4508	Exceeds limited or authorized amount	Chargeback Message
4608		Manual Chargeback
4509	Exceeds authorization time limit	Chargeback Message
4512	Duplicate processing	Chargeback Message
4612		Manual Chargeback

Code	Description	Application
4514	Fraudulent multiple transaction	Chargeback Message
4614		Manual Chargeback
4513	Invalid credit adjustment	Chargeback Message
4515	Transaction not recognized	Chargeback Message
4615		Manual Chargeback
4518	Cardholder dose not recognize merchant description	Chargeback Message
4519	Stand-in processing not allowed	Chargeback Message
4520	Stand-in processing criteria not fulfilled	Chargeback Message
4521	Transaction exceeds floor limit	Chargeback Message
4522	Declined authorization	Chargeback Message
4622		Manual Chargeback
4523	Non-matching account number	Chargeback Message
4525	Altered amount	Chargeback Message
4526	Illegible fulfillment	Manual Chargeback/ Second Chargeback
4626		Manual Chargeback/ Second Chargeback
4527	Fulfillment not received or fulfilled with response code 04	Chargeback Message
4627		Manual Chargeback
4528	Canceled pre-authorization	Chargeback Message
4628		Manual Chargeback
4530	Currency conversion errors	Chargeback Message
4531	Questionable transaction receipt	Chargeback Message
4631		Manual Chargeback
4532	Refund not processed	Chargeback Message
4632		Manual Chargeback
4536	Late presentment	Chargeback Message
4539	Cardholder disputes transaction date	Chargeback Message
4639		Manual Chargeback
4540	Card not yet effective	Chargeback Message
4541	Invalid data	Chargeback Message
4542	Transaction not received	Chargeback Message
4543	Duplicate processing by multiple institutions	Chargeback Message
4544	Canceling transaction	Chargeback Message
4644		Manual Chargeback
4545	Currency conversion not allowed	Chargeback Message
4546	MO/TO transaction unauthorized purchaser	Chargeback Message
4547	Warning bulletin file	Chargeback Message



Code	Description	Application
4548	Cardholder dispute-transaction under merchant floor limit	Chargeback Message
4549	Incorrect account number	Chargeback Message
4550	Cardholder disputes card activated telephone transaction	Chargeback Message
4551	Original transaction currency not provided	Chargeback Message
4553	Transaction not as described	Chargeback Message
4554	Not a commercial receipt	Chargeback Message
4555	Services not provided	Chargeback Message
4556	Merchandise not as described TAC fails for offline purchase	Chargeback Message
4557	Cardholder account was charged, but not received all or partial goods or services	CUP Secure Chargeback Message
4566	TAC verification failure for offline purchase transaction	Chargeback Message
4570	Invalid Representment	Second Chargeback Message
4670		Manual Second Chargeback Message
4571	New documentation provided	Second Chargeback Message
4671		Manual Second Chargeback Message
4572	Chargeback reason adjusted	Second Chargeback Message
4672		Manual Second Chargeback Message
4604—4604, 4609—4611, 4613, 4616—4621, 4623—4625, 4629, 4630, 4633—4638, 4640—4643, 4645—4690 are reserved for manual chargeback		
Reason for Inquiry and Retrieval Request/Response and Fulfillment		
6005	Cardholder does not agree with amount billed	Inquiry and Retrieval Request
6021	Cardholder does not recognize transaction	Inquiry and Retrieval Request
6022	ICC transaction verification and relevant data requested	Inquiry and Retrieval Request
6023	Cardholder needs information for personal records	Inquiry and Retrieval Request
6028	Request for copy bearing signature	Inquiry and Retrieval Request
6029	Travel and entertainment document request	Inquiry and Retrieval Request
6032	Copy request because original lost in transit	Inquiry and Retrieval Request
6035	Written cardholder request for	Inquiry and Retrieval Request

Code	Description	Application
	original due to inadequate copy of mail/phone order or recurring transaction receipt	
6036	Legal process request for original, e.g. a subpoena	Inquiry and Retrieval Request
6037	Received copy illegible	Inquiry and Retrieval Request
6038	Paper/handwriting analysis request	Inquiry and Retrieval Request
6041	Fraud investigation	Information Inquiry
6042	Potential arbitration, chargeback or compliance documentation required	Inquiry and Retrieval Request
6043	Retrieval not fulfilled – not able to trace original transaction	Response and Fulfillment
6044	Retrieval not fulfilled – invalid reference number	Response and Fulfillment
6045	Retrieval not fulfilled – reference number/PAN incompatible	Response and Fulfillment
6046	Requested documentation supplied	Response and Fulfillment
6047	Retrieval cannot be fulfilled – required/requested documentation is not available	Response and Fulfillment
6048	Retrieval will not be fulfilled – request for an item that is not required to be provided	Response and Fulfillment
6049	Retrieval cannot be fulfilled – ICC transaction certificate and associated data is not available	Response and Fulfillment
6300	ATM location inquiry by cardholder	Inquiry and Retrieval Request
6301	Merchant name or address inquiry by cardholder	Inquiry and Retrieval Request
6302	Transaction result inquiry by cardholder	Inquiry and Retrieval Request
6303	Transaction receipt request by cardholder directly	Inquiry and Retrieval Request
6304	Transaction receipt request by cardholder after responded inquiry	Inquiry and Retrieval Request
6305	Transaction receipt request after un-responded inquiry	Inquiry and Retrieval Request

Code	Description	Application
6307	Detail of transaction order (including if logistic delivery used)	CUPSecure Inquiry and Retrieval Request
6320	Whether the load transaction is successful	Information Inquiry Based on E-wallet/Bankbook Standard
6321	Questionable load transaction, transaction receipt requested	Information Inquiry Based on E-wallet/Bankbook Standard
6322	TAC fails for offline transaction, inquire TAC and calculation data	Information Inquiry Based on E-wallet/Bankbook Standard
6323	TAC fails for offline transaction, transaction receipt requested	Information Inquiry Based on E-wallet/Bankbook Standard
Reason for Fee Collection/Fund Disbursement: reserved for use		
8010	CUP system performs stand-in fee collection or fund disbursement	Manual FC/FD
7610	Inquire Retrieval Request	Inquire Retrieval Request
7611	Application fee for second appeal	FC/FC Message
7612	Disputed amount	FC/FD Message
7613	Penalty for late payment of disputed amount	FC/FD Message
7614	Return interchange fee due to incorrect region code	FC/FD Message
7620	Arbitration filing/review fee	FC/FD Message
7630	Authorization processing charge	FC/FD Message
7640	Misc. charges	FC/FD Message
7650	Service charge for clearing of Issuers	FC/FD Message
7660	Merchant risk validation fee	FC/FD Message
7680	Charge for delayed settlement	FC/FD Message
7690	Account follow-up fee	FC/FD Message
7700	Value-added tax	FC/FD Message
7710	Register/annual fee for non member	FC/FD Message
7720	Commission charge for chargeback	FC/FD Message
7730	Commission charge for representment/appeal	FC/FD Message
7740	Non performance fee	FC/FD Message
7750	BIN copyright and register fee	FC/FD Message
7760	Register fee for guaranteed member	FC/FD Message
7770	Charge for data exchange forms	FC/FD Message

Code	Description	Application
7785	Service charge/charge for postponing	FC/FD Message
7790	Repayment	FC/FD Message
7800	Telegraph, telephone and cable charge	FC/FD Message
7810	Lost card reporting fee	FC/FD Message
7820	Merchant service fee	FC/FD Message
Reason for Credit Adjustment		
9600	Transaction cancelled by cardholder	Credit Adjustment Message
6311		Manual Credit Adjustment
9601	Surplus of transaction amount identified by Acquirer or Transfer-in Side	Credit Adjustment Message
6314		Manual Credit Adjustment
9602	Non-disbursement of cash at ATM	Credit Adjustment Message
6316		Manual Credit Adjustment
9603	Partial disbursement of cash at ATM	Credit Adjustment Message
6318		Manual Credit Adjustment
9605	Surplus of transaction amount identified by Issuers of E-wallet card	Credit Adjustment Based on CUPIC E-wallet/Bankbook Standard
6312, 6313, 6315, 6317, 6319 reserved for manual credit adjustment		
Reason for Debit Adjustment		
9650	Transaction amount differs-purchase	Debit Adjustment Message
9660		Manual Debit Adjustment
9651	Transaction amount differs-ATM	Debit Adjustment Message
9661		Manual Debit Adjustment
9652	Incorrect Credit Adjustment	Debit Adjustment Message
9662		Manual Debit Adjustment
9653	ATM cash dispense was not recorded	Debit Adjustment Message
9663-9669 reserved for manual presentment		
Reason for Good Faith and Special Adjustment		
9700	Incorrect Credit Adjustment of Debit Card	Good Faith and Special Adjustment Advice
9701	Questionable First Chargeback of Debit Card	Good Faith and Special Adjustment Advice
9702	Deficit of transaction amount at Acquirer	Good Faith and Special Adjustment Advice
9703	Time frame exceeded	Good Faith and Special Adjustment Advice
9704	General dispute resolution cycle ended	Good Faith and Special Adjustment Advice

Code	Description	Application
9705	Transaction record not found in CUP central system	Good Faith and Special Adjustment Advice
9706	Other mutually agreed payment	Good Faith and Special Adjustment Advice
9708	Fault Credit Adjustment	Special Dispute based on CUPIC E-wallet/bankbook Standard
Reason for Manual Refund		
9707	Manual Refund	Manual Refund Advice

## A.4 Reject Code

### A.4.1 Description

Reject code consists of five digits with the first representing the location where the error happens: 0 stands for header element error; 1 for message body element error; and 2 for transaction reject due to CUP system's reason. If the first digit is 0 or 1, the following three digits denote the element number of the error that has happened with the last digit indicating the error type. If the first digit is 2, the following four digits denote the reason for the error.

### A.4.2 Table of Reject Code

#### A.4.2.1 Table of Error Type Code

When the first digit of a reject code is "0" (which means error in message header), or "1" (which means error in message), it denotes the error types for the element.

Table A.30 Table of Error Type Code

Error Type	Error Description
1	Error in the total length of data element
2	Illegal bitmap, data element XXX shall not exist (e.g. 0052 represents existence of data element 5 that not defined in the system)
3	Illegal characters in length field
4	Length value exceeds a specified value
5	Illegal characters/illegal contents
6	Lack of necessary data element
Note: Error type 2 and 6 may occur to any field, which will not be listed in the tables hereafter.	

#### A.4.2.2 Table of Reject Code for Message Header

Table A.31 Table of Reject Code for Message Header

Reject Code	Error Description
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Data Element	Error Type	
001	5	Illegal characters in header length
002	5	Illegal characters in header identifier and version
003	5	Non-numeric characters in message total length
004	5	Illegal characters in destination ID
005	5	Illegal characters in source ID
006	5	Illegal characters in reserved fields
007	5	Non-numeric characters in batch number
008	5	Illegal characters in CUP reserved fields

### A.4.2.3 Table of Reject Code for Message

Table A.32 Table of Reject Code for Message

Reject Code		Error Description
Data Element	Error Type	
000	5	Non-numeric characters in message type identifier/illegal message type identifier
002	3	Illegal characters in PAN length field
002	4	PAN length value exceeds 19
002	5	Illegal characters in PAN
003	5	Illegal processing code or illegal character
004	5	Illegal characters in transaction amount
005	5	Illegal characters in settlement amount
006	5	Illegal characters in cardholder billing amount
007	5	Illegal numbers or characters in Transmission Date and Time
009	5	Illegal characters in settlement exchange rate
010	5	Non-numeric characters in cardholder billing exchange rate
011	5	Non-numeric characters in system trace number
012	5	Illegal numbers or characters in local time of Acquirer
013	5	Illegal numbers or characters in local date of Acquirer
014	5	Illegal numbers or characters in card expiration period
015	5	Illegal numbers or characters in settlement date
016	5	Illegal numbers or characters in currency

Reject Code		Error Description
Data Element	Error Type	
		exchange date
018	5	Illegal characters in Merchant Category Code
019	5	Illegal characters in agency country code
022	5	Illegal characters in POS Entry Mode
023	5	Illegal characters in card sequence number
025	5	Illegal characters in POS Condition Code
026	5	Illegal characters in POS PIN Capture Code
028	5	Non-numeric characters in interchange fee amount
029	5	Non-numeric characters in settlement fee amount
031	5	Non-numeric characters in settlement processing fee amount
032	3	Illegal characters in length field
032	4	Length value exceeds 11
032	5	Illegal characters in agency identifier code
033	3	Illegal characters in length field
033	4	Length value exceeds 11
033	5	Illegal characters in sender's IIN
034	5	Illegal characters in extended PAN
035	3	Illegal characters in length field
035	4	Length value exceeds 37
035	5	Illegal track 2 contents or illegal characters
036	3	Illegal characters in length field
036	4	Length value exceeds 104
036	5	Illegal track 3 contents or illegal characters
037	5	Illegal characters in reference number
038	5	Illegal characters in authorization code
039	5	Illegal characters in response code
040	5	Illegal characters in service restriction code
041	5	Illegal characters
042	5	Illegal characters
043	5	Illegal characters
044	3	Illegal characters in length field
044	4	Length value exceeds 25
045	3	Illegal characters in length field
045	4	Length value exceeds 79
045	5	Illegal characters
048	3	Illegal characters in length field

Reject Code		Error Description
Data Element	Error Type	
048	4	Length value exceeds 512
048	5	Illegal characters
049	5	Illegal characters in transaction currency code
050	5	Illegal characters in settlement currency code
051	5	Non-numeric characters in currency code of cardholder billing amount
053	5	Illegal characters in security control information
054	3	Illegal characters in length field
054	4	Length value not equal to 40
054	5	Illegal characters in additional amount
057	3	Illegal characters in length field
057	4	Length value exceeds 100
057	5	Illegal characters
059	3	Illegal characters in length field
059	4	Length value exceeds 600
059	5	Illegal characters
060	3	Illegal characters in length field
060	4	Length value exceeds 100
060	5	Illegal characters/illegal contents
061	3	Illegal characters in length field
061	4	Length value exceeds 60
066	5	Illegal settlement code
070	5	Illegal codes in network management codes
090	5	Illegal characters in original data element
100	3	Illegal characters in length field
100	4	Length value exceeds 11
100	5	Illegal characters in receiver's IIN
102	3	Illegal characters in length element of transfer-out account
102	4	Length value exceeds 28
102	5	Non-numeric characters in transfer-out account
121	3	Illegal characters in length field
121	4	Length value exceeds 100
121	5	Illegal characters
122	3	Illegal characters in length field
122	4	Length value exceeds 100
122	5	Illegal characters



Reject Code		Error Description
Data Element	Error Type	
123	3	Illegal characters in length field
123	4	Length value exceeds 100
123	5	Illegal characters

#### A.4.2.4 Table of Reject Code for CUP System Error

Table A.33 Table of Reject Code for CUP System Error

Reject Code	Error Description
0000	CUP system busy, request not processed
0001	Error found in CUP system, transaction rejected
0002	CUP system in status of disaster recovery switch

#### A.4.2.5 Table of Special Reject Code

Table A.34 Table of Special Reject Code

Reject Code	Error Description
09990	CUP system cannot unpack the message received or cannot identify the transaction type even though the message is unpacked.
09991	Unable to identify whether it is IC card, magnetic stripe card or fall back card.

### A.5 Country/Region and Currency Code

All Members and Participants need to refer the following table for Country/Region and Currency Code for processing CUP card transaction.

Table A.34 Country/Region and Currency Code

Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
Afghanistan	004	AFG	Afghani	971	AFN	2
Albania	008	ALB	Lek	008	ALL	2
Algeria	012	DZA	Algerian Dinar	012	DZD	2
American Samoa	016	ASM	U.S. Dollar	840	USD	2
Andorra	020	AND	Euro	978	EUR	2
Angola	024	AGO	New Kwanza	024	AON	2
			Angola Kwanza	973	AOA	2
Anguilla	660	AIA	East Caribbean Dollar	951	XCD	2
Antarctica	010	ATA	Norwegian Krone	578	NOK	2
Antigua and Barbuda	028	ATG	East Caribbean Dollar	951	XCD	2

Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
Argentina	032	ARG	Argentine Peso	032	ARS	2
Armenia	051	ARM	New Ruble	643	RUB	2
Aruba	533	ABW	Guilder	533	AWG	2
Australia	036	AUS	Australian Dollar	036	AUD	2
Austria	040	AUT	Euro	978	EUR	2
Azerbaijan	031	AZE	Azerbaijani Manat	944	AZN	2
Bahamas	044	BHS	Bahamian Dollar	044	BSD	2
Bahrain	048	BHR	Bahraini Dinar	048	BHD	3
Bangladesh	050	BGD	Taka	050	BDT	2
Barbados	052	BRB	Barbados Dollar	052	BBD	2
Belarus	112	BLR	New Ruble	643	RUB	2
Belgium	056	BEL	Euro	978	EUR	2
Belize	084	BLZ	Belize Dollar	084	BZD	2
Benin	204	BEN	CFA Franc BCEAO2	952	XOF	0
Bermuda	060	BMU	Bermudian Dollar	060	BMD	2
Bhutan	064	BTN	Indian Rupee	356	INR	2
Bolivia	068	BOL	Boliviano	068	BOB	2
Bosnia and Herzegovina	070	BIH	Convertible Mark	977	BAM	2
Botswana	072	BWA	Pula	072	BWP	2
Bouvet Island	074	BVT	Norwegian Krone	578	NOK	2
Brazil	076	BRA	Brazilian Real	986	BRL	2
British Indian Ocean Territory	086	IOT	U.S. Dollar	840	USD	2
Brunei Darussalam	096	BRN	Brunei Dollar	096	BND	2
Bulgaria	100	BGR	New Bulgarian Lev	975	BGN	2
Burkina Faso	854	BFA	CFA Franc BCEAO	952	XOF	0
Burundi	108	BDI	Burundi Franc	108	BIF	2
Cambodia	116	KHM	Riel	116	KHR	2
Cameroon	120	CMR	CFA Franc BEAC	950	XAF	0
Canada	124	CAN	Canadian Dollar	124	CAD	2
Cape Verde	132	CPV	Cape Verde Escudo	132	CVE	2
Cayman Islands	136	CYM	Cayman Islands Dollar	136	KYD	2
Central African	140	CAF	CFA Franc BEAC	950	XAF	0

Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
Republic						
Chad	148	TCD	CFA Franc BEAC	950	XAF	0
Chile	152	CHL	Chilean Peso	152	CLP	2
China	156	CHN	Chinese Renminbi	156	CNY	2
Christmas Island	162	CXR	Australian Dollar	036	AUD	2
Cocos (Keeling) Islands	166	CCK	Australian Dollar	036	AUD	2
Colombia	170	COL	Colombian Peso	170	COP	2
Comoros	174	COM	Comoro Franc	174	KMF	0
Congo	178	COG	CFA Franc BEAC	950	XAF	0
Democratic Republic of the Congo	180	ZAR	Congolese Franc	976	CDF	2
Cook Islands	184	COK	New Zealand Dollar	554	NZD	2
Costa Rica	188	CRI	Costa Rican Colon	188	CRC	2
Côte D'Ivoire	384	CIV	CFA Franc BCEAO	952	XOF	0
Croatia	191	HRV	Kuna	191	HRK	2
Cuba	192	CUB	Cuban Peso	192	CUP	2
Cyprus	196	CYP	Euro	978	EUR	2
Czech Republic	203	CZE	Koruna	203	CZK	2
Denmark	208	DNK	Danish Krone	208	DKK	2
Djibouti	262	DJI	Djibouti Franc	262	DJF	0
Dominica	212	DMA	East Caribbean Dollar	951	XCD	2
Dominican Republic	214	DOM	Dominican Peso	214	DOP	2
East Timor	626	TMP	Rupiah	360	IDR	0
Ecuador	218	ECU	U.S.Dollar	840	USD	2
Egypt	818	EGY	Egyptian Pound	818	EGP	2
El Salvador	222	SLV	El Salvador Colon	222	SVC	2
			U.S.Dollar	840	USD	2
Equatorial Guinea	226	GNQ	CFA Franc BEAC	950	XAF	0
Eritrea	232	ERI	Ethiopian Birr	230	ETB	2
Estonia	233	EST	Kroon	233	EEK	2
Ethiopia	230	ETH	Ethiopian Birr	230	ETB	2
Faroe Islands	234	FRO	Danish Krone	208	DKK	2
Falkland Islands	238	FLK	Falkland Islands	238	FKP	2

Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
(Malvinas)			Pound			
Fiji	242	FJI	Fiji Dollar	242	FJD	2
Finland	246	FIN	Euro	978	EUR	2
France	250	FRA	Euro	978	EUR	2
French Guiana	254	GUF	Euro	978	EUR	2
French Polynesia	258	PYF	CFP Franc	953	XPF	0
French Southern Territories	260	ATF	Euro	978	EUR	2
Gabon	266	GAB	CFA Franc BEAC	950	XAF	0
Gambia	270	GMB	Dalasi	270	GMD	2
Georgia	268	GEO	Lari	981	GEL	2
Germany, Republic of	280	DEU	Euro	978	EUR	2
Ghana	288	GHA	Cedi	936	GHS	2
Gibraltar	292	GIB	Gibraltar Pound	292	GIP	2
Greece	300	GRC	Euro	978	EUR	2
Greenland	304	GRL	Danish Krone	208	DKK	2
Grenada	308	GRD	East Caribbean Dollar	951	XCD	2
Guadeloupe	312	GLP	Euro	978	EUR	2
Guam	316	GUM	U.S. Dollar	840	USD	2
Guatemala	320	GTM	Quetzal	320	GTQ	2
Guinea	324	GIN	Guinea Franc	324	GNF	0
Guinea-Bissau	624	GNB	Guinea-Bissau Peso	624	GWP	2
Guyana	328	GUY	Guyana Dollar	328	GYD	2
Haiti	332	HTI	Gourde	332	HTG	2
Heard and McDonald Islands	334	HMD	Australian Dollar	036	AUD	2
Honduras	340	HND	Lempira	340	HNL	2
Hong Kong	344	HKG	Hong Kong Dollar	344	HKD	2
Hungary	348	HUN	Forint	348	HUF	2
Iceland	352	ISL	Iceland Krona	352	ISK	2
India	356	IND	Indian Rupee	356	INR	2
Indonesia	360	IDN	Rupiah	360	IDR	0
Iran, Islamic Republic of	364	IRN	Iranian Rial	364	IRR	2
Iraq	368	IRQ	Iraqi Dinar	368	IQD	3
Ireland	372	IRL	Euro	978	EUR	2

Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
Israel	376	ISR	Israeli Shekel	376	ILS	2
Italy	380	ITA	Euro	978	EUR	2
Jamaica	388	JAM	Jamaican Dollar	388	JMD	2
Japan	392	JPN	Yen	392	JPY	0
Jordan	400	JOR	Jordanian Dinar	400	JOD	3
Kazakhstan	398	KAZ	Tenge	398	KZT	2
Kenya	404	KEN	Kenyan Shilling	404	KES	2
Kiribati	296	KIR	Australian Dollar	036	AUD	2
Korea, Democratic People's Republic of	408	PRK	North Korean Won	408	KPW	2
Korea, Republic of	410	KOR	Won	410	KRW	0
Kuwait	414	KWT	Kuwaiti Dinar	414	KWD	3
Kyrgyzstan	417	KGZ	New Ruble	643	RUB	2
Lao People's Democratic Republic	418	LAO	Kip	418	LAK	2
Latvia	428	LVA	Latvian Lats	428	LVL	2
Lebanon	422	LBN	Lebanese Pound	422	LBP	2
Lesotho	426	LSO	Loti	426	LSL	2
Liberia	430	LBR	Liberian Dollar	430	LRD	2
Libya Arab Jamahiriya	434	LBY	U.S. Dollar	840	USD	2
Liechtenstein	438	LIE	Swiss Franc	756	CHF	2
Lithuania	440	LTU	Lithuanian Litas	440	LTL	2
Luxembourg	442	LUX	Euro	978	EUR	2
Macau	446	MAC	Pataca	446	MOP	2
Macedonia	807	MKD	Denar	807	MKD	2
Madagascar	450	MDG	Malagasy Ariary	969	MGA	2
Malawi	454	MWI	Kwacha	454	MWK	2
Malaysia	458	MYS	Malaysian Ringgit	458	MYR	2
Maldives	462	MDV	Rufiyaa	462	MVR	2
Mali	466	MLI	CFA Franc BCEAO	952	XOF	0
Malta	470	MLT	Euro	978	EUR	2
Marshall Islands	584	MHL	U.S. Dollar	840	USD	2
Martinique	474	MTQ	Euro	978	EUR	2
Mauritania	478	MRT	Ouguiya	478	MRO	2
Mauritius	480	MUS	Mauritius Rupee	480	MUR	2
Mexico	484	MEX	Mexican Peso	484	MXN	2

Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
Micronesia	583	FSM	U.S. Dollar	840	USD	2
Midway Islands	488	MID	U.S. Dollar	840	USD	2
Moldova, Republic of	498	MDA	New Ruble	643	RUB	2
Monaco	492	MCO	Euro	978	EUR	2
Mongolia	496	MNG	Tugrik	496	MNT	2
Montenegro	499	MNE	Euro	978	EUR	2
Montserrat	500	MSR	East Caribbean Dollar	951	XCD	2
Morocco	504	MAR	Moroccan Dirham	504	MAD	2
Mozambique	508	MOZ	Metical	943	MZN	2
Myanmar	104	MMR	Kyat	104	MMK	2
Namibia	516	NAM	Dollar	516	NAD	2
Nauru	520	NRU	Australian Dollar	036	AUD	2
Nepal	524	NPL	Nepalese Rupee	524	NPR	2
Netherlands	528	NLD	Euro	978	EUR	2
Netherlands Antilles	530	ANT	Netherlands Antillian Guilder	532	ANG	2
New Caledonia	540	NCL	C.F.A. Franc	953	XPF	0
New Zealand	554	NZL	New Zealand Dollar	554	NZD	2
Nicaragua	558	NIC	Cordoba Oro	558	NIO	2
Niger	562	NER	CFA Franc BCEAO	952	XOF	0
Nigeria	566	NGA	Naira	566	NGN	2
Niue	570	NIU	New Zealand Dollar	554	NZD	2
Norfolk Island	574	NFK	Australian Dollar	036	AUD	2
Northern Mariana Islands	580	MNP	U.S. Dollar	840	USD	2
Norway	578	NOR	Norwegian Krone	578	NOK	2
Oman	512	OMN	Rial Omani	512	OMR	3
Pakistan	586	PAK	Pakistan Rupee	586	PKR	2
Palau	585	PLW	U.S. Dollar	840	USD	2
Palestinian (Palestine)	275	PSE	U.S. Dollar	840	USD	2
Panama	591	PAN	Balboa	590	PAB	2
			U.S. Dollar	840	USD	2
Papua New Guinea	598	PNG	Kina	598	PGK	2
Paraguay	600	PRY	Guarani	600	PYG	0

Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
Peru	604	PER	Nuevo Sol	604	PEN	2
Philippines	608	PHL	Philippine Peso	608	PHP	2
Pitcairn	612	PCN	New Zealand Dollar	554	NZD	2
Poland	616	POL	Zloty	985	PLN	2
Portugal	620	PRT	Euro	978	EUR	2
Puerto Rico	630	PRI	U.S. Dollar	840	USD	2
Qatar	634	QAT	Qatari Rial	634	QAR	2
Réunion	638	REU	Euro	978	EUR	2
Romania	642	ROM	Romanian Leu (new)	946	RON	2
Russian Federation	643	RUS	New Ruble (Russian Ruble)	643	RUB	2
Rwanda	646	RWA	Rwanda Franc	646	RWF	0
Samoa	882	WSM	Tala	882	WST	2
San Marino	674	SMR	Euro	978	EUR	2
Sao Tome and Principe	678	STP	Dobra	678	STD	2
Saudi Arabia	682	SAU	Saudi Riyal	682	SAR	2
Senegal	686	SEN	CFA Franc BCEAO	952	XOF	0
Serbia and Montenegro	891	YUG	Serbian Dinar	891	CSD	2
Serbia, Republic of	688	SRB	Serbian Dinar	941	RSD	2
Seychelles	690	SYC	Seychelles Rupee	690	SCR	2
Sierra Leone	694	SLE	Leone	694	SLL	2
Singapore	702	SGP	Singapore Dollar	702	SGD	2
Slovakia (Slovak Republic)	703	SVK	Euro	978	EUR	2
Slovenia	705	SVN	Euro	978	EUR	2
Solomon Islands	090	SLB	Solomon Islands Dollar	090	SBD	2
Somalia	706	SOM	Somali Shilling	706	SOS	2
South Africa	710	ZAF	Rand	710	ZAR	2
Spain	724	ESP	Euro	978	EUR	2
Sri Lanka	144	LKA	Sri Lanka Rupee	144	LKR	2
St. Helena	654	SHN	St. Helena Pound	654	SHP	2
St. Kitts-Nevis	659	KNA	East Caribbean Dollar	951	XCD	2
St. Lucia	662	LCA	East Caribbean	951	XCD	2

Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
			Dollar			
St. Pierre and Miquelon	666	SPM	Euro	978	EUR	2
St. Vincent and the Grenadines	670	VCT	East Caribbean Dollar	951	XCD	2
Sudan	736	SDN	Sudanese Dinar	736	SDD	2
Suriname	740	SUR	Surinam Dollar	968	SRD	2
Svalbard and Jan Mayen Islands	744	SJM	Norwegian Krone	578	NOK	2
Swaziland	748	SWZ	Lilangeni	748	SZL	2
Sweden	752	SWE	Swedish Krona	752	SEK	2
Switzerland	756	CHE	Swiss Franc	756	CHF	2
Syrian Arab Republic	760	SYR	Syrian Pound	760	SYP	2
Taiwan	158	TWN	New Taiwan Dollar	901	TWD	2
Tajikistan	762	TJK	Somoni	972	TJS	2
Tanzania, United Republic of	834	TZA	Tanzanian Shilling	834	TZS	2
Thailand	764	THA	Baht	764	THB	2
Togo	768	TGO	CFA Franc BCEAO	952	XOF	0
Tokelau	772	TKL	New Zealand Dollar	554	NZD	2
Tonga	776	TON	Pa'anga	776	TOP	2
Trinidad and Tobago	780	TTO	Trinidad and Tobago Dollar	780	TTD	2
Tunisia	788	TUN	Tunisian Dinar	788	TND	3
Turkey	792	TUR	New Turkish Lira	949	TRY	2
Turkmenistan	795	TKM	Russian Ruble	643	RUB	2
Turks and Caicos Islands	796	TCA	U.S. Dollar	840	USD	2
Tuvalu	798	TUV	Australian Dollar	036	AUD	2
U.S. Minor Outlying Islands	581	UMI	U.S. Dollar	840	USD	2
Uganda	800	UGA	Uganda Shilling	800	UGX	2
Ukraine	804	UKR	Hryvnia	980	UAH	2
United Arab Emirates	784	ARE	UAE Dirham	784	AED	2
United Kingdom	826	GBR	Pound Sterling	826	GBP	2



Country/Region Name	Numeric	Alpha	Currency Name	Numeric	Alpha	Decimal Digit
United States	840	USA	U.S. Dollar	840	USD	2
Uruguay	858	URY	Peso Uruguayo	858	UYU	2
Uzbekistan	860	UZB	New Ruble	643	RUB	2
Vanuatu	548	VUT	Vatu	548	VUV	0
Holy See (Vatican City State)	336	VAT	Euro	978	EUR	2
Venezuela	862	VEN	Bolivar Fuerte	937	VEF	2
Vietnam	704	VNM	Dong	704	VND	2
Virgin Islands, British	092	VGB	U.S. Dollar	840	USD	2
Virgin Islands, U.S.	850	VIR	U.S. Dollar	840	USD	2
Wake Island	872	WAK	U.S. Dollar	840	USD	2
Wallis and Futuna Islands	876	WLF	CFP Franc	953	XPF	0
Western Sahara	732	ESH	Moroccan Dirham	504	MAD	2
Yemen	887	YEM	Yemen Rial	886	YER	2
Zambia	894	ZMB	Kwacha	894	ZMK	2
Zimbabwe	716	ZWE	Zimbabwe Dollar	716	ZWD	2

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## Appendix B Table of Transaction Type Identification

### B.1 Single-message Financial, Authorization Request, and Advice Transactions

The following table includes all transaction types for cross-border transactions.

Table B.1 Transaction Type Identification of Single-message Financial, Authorization Request, Advice Transactions

Transaction Type	Transaction Name	Information Type (Request/Response)	Field 3 Value	Field 18 Value	Field 25 Value	Field 60.2.5 Value
Balance Inquiry	ATM Balance Inquiry	0200/0210	30x000	6011	02	01
	Balance Inquiry	0200/0210	30x000	not 6011	02	being valued according to transaction channel
Cash Withdrawal	ATM Cash Withdrawal	0200/0210	01x000	6011	02	01
	Manual Cash Withdrawal	0200/0210	01x000	6010	00	03, 06
Cash Withdrawal Reversal	ATM Cash Withdrawal Reversal	0420/0430	01x000	6011	02	01
	Manual Cash Withdrawal Reversal	0420/0430	01x000	6010	00	03,06
Remittance	Account Authentication	0100/0110	24x000	being valued according to actual situation	00	being valued according to transaction channel
	Remittance (Online)	0200/0210	24x000	being valued according to actual situation	00	being valued according to transaction channel
	Remittance (Manual)	0200	24x000	being valued according to actual situation	00	12
Pre-authorization	Pre-authorization	0100/0110	03x000	Not 6010, 6011, 6760	06	Being valued according to transaction

Transaction Type	Transaction Name	Information Type (Request/ Response)	Field 3 Value	Field 18 Value	Field 25 Value	Field 60.2.5 Value
						initiating channel
Pre-authorization Cancellation	Pre-authorization Cancellation	0100/0110	20x000	Not 6010, 6011, 6760	06	Being valued according to transaction initiating channel
	Pre-authorization Cancellation (manual)	0100/0110	20x000	Not 6010, 6011, 6760	06	12
Pre-authorization Reversal	Pre-authorization Reversal	0420/0430	03x000	Not 6010, 6011, 6760	06	Being valued according to transaction initiating channel
Pre-authorization Cancellation Reversal	Pre-authorization Cancellation Reversal	0420/0430	20x000	Not 6010, 6011, 6760	06	Being valued according to transaction initiating channel
	Pre-authorization Cancellation (manual) Reversal	0420/0430	20x000	Not 6010, 6011, 6760	06	12
Pre-authorization Completion	Pre-authorization Completion (online)	0200/0210	00x000	Not 6010, 6011, 6760	06	Being valued according to transaction initiating channel
	Pre-authorization Completion (offline)	0220/0230	00x000	Not 6010, 6011, 6760	06	Being valued according to transaction initiating channel
	Pre-authorization Completion (manual)	0220/0230	00x000	Not 6010, 6011, 6760	06	12
Pre-authorization Completion Cancellation	Pre-authorization Completion Cancellation	0200/0210	20x000	Not 6010, 6011, 6760	06	Being valued according to transaction

Transaction Type	Transaction Name	Information Type (Request/ Response)	Field 3 Value	Field 18 Value	Field 25 Value	Field 60.2.5 Value
Cancellation	(Online)					initiating channel
Pre-authorization Completion Reversal	Pre-authorization Completion Reversal	0420/0430	00x000	Not 6010, 6011, 6760	06	Being valued according to transaction initiating channel
Pre-authorization Completion Cancellation Reversal	Pre-authorization Completion Cancellation Reversal	0420/0430	20x000	Not 6010, 6011, 6760	06	Being valued according to transaction initiating channel
Purchase	Purchase (Disposable)	0200/0210	00x000	Not 6010, 6011, 6760	00	Being valued according to transaction initiating channel
Purchase Reversal	Purchase Reversal (Disposable)	0420/0430	00x000	Not 6010, 6011, 6760	00	Being valued according to transaction initiating channel
Purchase Cancellation	Purchase Cancellation (Disposable)	0200/0210	20x000	Not 6010, 6011, 6760	00	Being valued according to transaction initiating channel
Purchase Cancellation Reversal	Purchase Cancellation Reversal (Disposable)	0420/0430	20x000	Not 6010, 6011, 6760	00	Being valued according to transaction initiating channel
Purchase	Purchase (Installment Payment)	0200/0210	00x000	Not 6010, 6011, 6760	64	Being valued according to transaction initiating

Transaction Type	Transaction Name	Information Type (Request/ Response)	Field 3 Value	Field 18 Value	Field 25 Value	Field 60.2.5 Value
						channel
Purchase Reversal	Purchase Reversal (Installment Payment)	0420/0430	00x000	Not 6010, 6011, 6760	64	Being valued according to transaction initiating channel
Purchase Cancellation	Purchase Cancellation (Installment Payment)	0200/0210	20x000	Not 6010, 6011, 6760	64	Being valued according to transaction initiating channel
Purchase Cancellation Reversal	Purchase Cancellation Reversal (Installment Payment)	0420/0430	20x000	Not 6010, 6011, 6760	64	Being valued according to transaction initiating channel
Refund	Refund (online)	0220/0230	20x000	Not 6010, 6011, 6760	00	03, 07
	Refund (manual) (original transaction found and no original transaction found)	0220	20x000	Not 6010, 6011, 6760	00	12
Settlement Advice	Settlement Advice	0220/0230	00x000	Not 6010, 6011, 6760	06	Being valued according to transaction channel
E-cash IC card designated account loading based on CUPIC debit/credit standards	E-cash IC card designated account loading based on CUPIC debit/credit standards	0200/0210	60x000	Filled in according to actual status	91	Being valued according to transaction channel
	E-cash IC card designated account loading reversal based on CUPIC debit/credit standards	0420/0430	60x000	Filled in according to actual status	91	Being valued according to transaction channel

Transaction Type	Transaction Name	Information Type (Request/ Response)	Field 3 Value	Field 18 Value	Field 25 Value	Field 60.2.5 Value
E-cash IC card cash loading based on CUPIC debit/credit standards	Cash loading	0200/0210	63x000	Filled in according to actual status	91	Being valued according to transaction channel
	Cash loading reversal	0420/0430	63x000	Filled in according to actual status	91	Being valued according to transaction channel

## B.2 Dual Message Transaction

The following table includes all transaction types for cross-border transactions.

Table B.2 Table of Transaction Type Identification for Dual Message Transaction and its Stand-in Authorization Advice Transaction.

Transaction Type	Trans Name	Information Type (Request/ Response)	Field 3 Value	Field 18 Value	Field 25 Value	Field 60.2.5 Value
Balance Inquiry	Balance Inquiry	0100/0110	30x000	Not 6011	00	Not 01, Being valued according to transaction initiating channel
Authorization	Purchase Authorization (one-time payment)	0100/0110	00x000	Not 6010, 6011, 6760	00	Not 01, Being valued according to transaction initiating channel
	Manual Cash Withdrawal	0100/0110	01x000	6010	00	03, 06
	Purchase Authorization (installment payment)	0100/0110	00x000	Not 6010, 6011, 6760	64	Not 01, Being valued according to transaction initiating channel
Authorization	Purchase	0100/0110	20x000	Not	00	Not 01, Being

Transaction Type	Trans Name	Information Type (Request/Response)	Field 3 Value	Field 18 Value	Field 25 Value	Field 60.2.5 Value
Cancellation	Authorization (one-time payment) Cancellation			6010, 6011, 6760		valued according to transaction initiating channel
	Purchase Authorization (installment payment) Cancellation	0100/0110	20x000	Not 6010, 6011, 6760	64	Not 01, Being valued according to transaction initiating channel
Authorization Reversal	Purchase Authorization Reversal	0420/0430	00x000	Not 6010, 6011, 6760	00	Not 01, Being valued according to transaction initiating channel
	Manual Cash Withdrawal Reversal	0420/0430	01x000	6010	00	03, 06
	Purchase Authorization (installment payment) Reversal	0420/0430	00x000	Not 6010, 6011, 6760	64	Not 01, Being valued according to transaction initiating channel
Authorization Cancellation Reversal	Purchase Authorization (one-time payment) Cancellation Reversal	0420/0430	20x000	Not 6010, 6011, 6760	00	Not 01, Being valued according to transaction initiating channel
	Purchase Authorization (installment payment) Cancellation Reversal	0420/0430	20x000	Not 6010, 6011, 6760	64	Not 01, Being valued according to transaction initiating channel



### B.3 Management and Exchange Rate Inquiry Transaction

The following table includes all transaction types for cross-border transactions.

Table B.3 Table of Transaction Type Identification for Management and Reconciliation Transaction

Transaction Type	Transaction Name	Application		Information Type (Request /Response)	Field 70 Value
		0	1		
Sign-on	Log-in	√	√	0820/0830	001
Sign-off	Log-off	√	√	0820/0830	002
Enable Participant	Enable Participant	√	√	0820/0830	001
Disable Participant	Disable Participant	√	√	0820/0830	002
Echo Test	Echo Test	√	√	0820/0830	301
Key Reset	Request for Key Reset (initiated by Participants)	√	√	0820/0830	101
	Key Reset (initiated by CUP)	√	√	0800/0810	101
Reconciliation	Participants Request for Reconciliation	√		0800/0810	090
	Reconciliation by Acquirer	√		0520/0530	270/271/272/273
	Reconciliation by Issuers	√		0522/0532	270/271/272/273
Text Information Delivery	Text Information Delivery	√	√	0620/0630	800/801
Fund Settlement	Fund Settlement	√		0620/0630	280
Daily Cut-off Advice	Daily Cut-off Start	√	√	0820/0830	201
	Daily Cut-off End	√	√	0820/0830	202
Risk Control	Suspicious Card Advice	√	√	0620/0630	802
	Suspicious Card Transaction Advice	√	√	0620/0630	803

### B.4 Dispute Transaction

Table B.4 Table of Transaction Type Identification for Dispute Transaction

Transaction Type	Transaction Name	Application		Information Type (Request/Response)	Field 3 Value	Field 18 Value	Field 25 Value	Field 60.2.5 Value
		0	1					

Credit Adjustment for normal transaction	Credit Adjustment sent to Acquirers	√	√	0422/0432	22x000	Same as value for original transaction	00	Same as value for original transaction
	Credit Adjustment sent to Issuers	√	√	0220/0230	22x000	Same as value for original transaction	00	Same as value for original transaction
Credit Adjustment for Deposit	Credit Adjustment sent to Acquirers	√		0422/0432	22x000	Same as value for original transaction	83	Same as value for original transaction
	Credit Adjustment sent to Issuers	√		0220/0230	22x000	Same as value for original transaction	83	Same as value for original transaction
Credit Adjustment for Transfer	Credit Adjustment sent to Transfer-out	√		0220/0230	22x000	Same as value for original transaction	83	Same as value for original transaction
	Credit Adjustment sent to Transfer-in	√		0220/0230	22x000	Same as value for original transaction	83	Same as value for original transaction
Debit Adjustment	Debit Adjustment sent to Acquirers	√	√	0422/0432	02x000	Same as value for original transaction	00	Same as value for original transaction
	Debit Adjustment sent to Issuers	√	√	0220/0230	02x000	Same as value for original transaction	00	Same as value for original transaction
Representment	Representment sent to Acquirers (original transaction→ Debit Adjustment→ Chargeback→ Representment)	√	√	0422/0432	02x000	Same as value for original transaction	13	Same as value for original transaction
	Representment sent to Issuers (original	√	√	0220/0230	02x000	Same as value for original transaction	13	Same as value for original

	transaction→ Debit Adjustment →Chargeback→ Representation)							transaction
	Representation sent to Acquirers (original transaction→ Chargeback→ Representation)	√	√	0422/0432	Same as value for original transaction	Same as value for original transaction	13	Same as value for original transaction
	Representation sent to Issuers (original transaction→ Chargeback→ Representation)	√	√	0220/0230	Same as value for original transaction	Same as value for original transaction	13	Same as value for original transaction
Chargeback	Chargeback sent to Acquirers (for Debit Adjustment transaction)	√	√	0422/0432	02x000	Same as value for original transaction	17	Same as value for original transaction
	Chargeback sent to Issuers (for Debit Adjustment transaction)	√	√	0220/0230	02x000	Same as value for original transaction	17	Same as value for original transaction
	Chargeback sent to Acquirer (for other transactions)	√	√	0422/0432	Same as value for original transaction	Same as value for original transaction	17	Same as value for original transaction
	Chargeback sent to Issuers (for other transactions)	√	√	0220/0230	Same as value for original transaction	Same as value for original transaction	17	Same as value for original transaction
Second Chargeback	Second chargeback sent to Acquirers	√	√	0422/0432	02x000	Same as value for original transaction	41	Same as value for original transaction
	Second chargeback sent to Issuers	√	√	0220/0230	02x000	Same as value for original transaction	41	Same as value for original transaction
Exceptional	Exceptional	√	√	0422/0432	22x000	Same as value	82	Same as

Processing	Processing sent to initiator					for original transaction		value for original transaction
	Exceptional Processing sent to receiver	√	√	0220/0230	22x000	Same as value for original transaction	82	Same as value for original transaction
Fee Collection/ Fund Disbursement	Fee Collection	√	√	0220/0230	19x000	(N/A)	00	Fill in default value
	Fund Disbursement	√	√	0220/0230	29x000	(N/A)	00	Fill in default value

## B.5 Support of CUPS to IC Card Transactions Based on CUPIC Debit/Credit Standards

### B.5.1 Support of CUPS to IC Card Transactions based on CUPIC Debit/Credit Standards

Since CUPS supports the appearance of field 55, it can identify IC card information submitted by terminals and decide whether to forward the IC card information to Issuers according to the system modification status of the receiver (judged from field 100 of the message). Please refer to the following table for details.

Table D.1 The implementation method for the support of CUPS to IC card switch based on CUPIC debit/credit standards

	Acquirer	Issuer	CUP Processing
1	Early	Early	Delete field 23, 55 information forwarding, verify ARQC and generate ARPC
2	Early	Full	Delete field 23, 55 information forwarding, verify ARQC and generate ARPC, with the Acquirer bears the risk.
3	Full	Early	Directly forward field 23, 55 information and the receiver shall switch from Full to Early, who should be able to conduct the switch
4	Full	Full	Directly forward field 23, 55 information

### B.5.2 Support of CUPS to Stand-in Authorization of IC Card based on CUPIC Debit/Credit Standards

The followings shall be fulfilled to realize the function of stand-in authorization of IC card.

### B.5.2.1 Function of Security Authentication

Security authentication is one of the most important functions of stand-in authorization. The process of IC card authentication includes two levels of authentication related to Issuers.

### B.5.2.2 Online Card Authentication

In an online transaction, the card will generate ARQC (Authorization Request Cryptogram), which will be verified by Issuers to authenticate the validation of the card.

The UDK (Unique Derivation Key) is adopted when CUPS checks the ARQC, the UDK is generated by MDK (Master Derivation Key) together with PAN and the PAN serial number of the card, and it is stored in the card to generate ARQC.

Every UDK corresponds with a unique card. ARQC is usually generated by using 2DES algorithm to a combination of eight terminal fields and three card fields. The Issuer adopts the same algorithm to calculate ARQC. And the Issuer may also determine the data source at its own discretion. The general data source and its sequence are as follows:

Table D.2 List of Data Source Generating ARQC

SN	Tag No.	Field Name
8 terminal fields		
1	9F02	Authorization amount
2	9F03	Other amount
3	9F1A	Terminal country code
4	95	Terminal verification result
5	5F2A	Terminal currency code
6	9A	Transaction date
7	9C	Transaction type
8	9F37	Random number
3 card fields		
9	82	Interaction feature
10	9F36	Transaction counter
11	9F10	Card verification result (part of the applied data of Issuers)

CUPS shall, on behalf of the Issuer, calculate ARQC and verify it when executing stand-in authorization. Issuer' MDK is required in calculating ARQC. There are two methods. One method is that the CUPS generates ARQC on behalf of the Issuer. The other is that the Issuer delivers the MDK to CUPS after having encrypted it through ZCMK (Zone Control Master Key). CUPS can calculate ARQC according the above-mentioned method and verify the validity of the card. The transaction will be rejected if the verification fails.

### **B.5.2.3 Online Issuer Authentication**

In an online transaction, the Issuer generates ARPC (Authorization Response Cryptogram). The card will verify the ARPC to authenticate the validity of the Issuer.

The approach to generate ARPC is as follows: to Xor the response code of authorization response cryptogram of both ARQC and Tag 91 firstly and, then, to generate ARPC through 2DES algorithm together with UDK and, finally, store the result in the authorization response cryptogram in sub-field of Tag 91.

Similarly, CUPS needs to know Issuer' MDK when conducting the stand-in authorization for it should calculate ARPC on behalf of the Issuer. The operation is the same as that in D.3.2. CUPS can obtain ARPC through the above-mentioned methods upon receipt of MDK and transmit the result to the card. The card will compare the result with the ARPC calculated by the card itself to verify the validity of the Issuer.

### **B.5.2.4 Processing of Issuer's Script**

As for the processing of Issuer' script, CUPS support application lock etc. in accordance with the stand-in authorization agreement signed with the Issuer.

## **B.5.3 Support of CUPS to Stand-in Verification of IC Card based on CUPIC Debit/Credit Standards**

Stand-in verification only relates to security authentication function and only verifies the value of ARQC on behalf of the Issuer and sends the result to the Issuer. Whether this transaction shall be approved or rejected is subject to the Issuer, and CUPS will not decide the result of the transaction.

The Issuer may trust the ARQC calculated by CUPS or not, and make their own judgment. So the following situation may occur: The Issuer rejects the transaction despite of the fact that the value of ARQC calculated by CUPS is correct and vice versa.

CUPS' processing of the stand-in verification is subject to the Issuer's card BIN.

CUPS shall firstly search for the corresponding stand-in verification field of the BIN. If the BIN requires CUPS to verify ARQC and generate ARPC, CUPS will conduct such processing; if the BIN does not require such processing, CUPS will not conduct any stand-in verification. It shall be noticed that if the BIN does not require stand-in verification of ARQC and generation of ARPC, but the receiver is in the status of Early, such EMV transaction will be rejected.

The process of stand-in verification includes one level authentication as follows:

The card will generate ARQC in an online transaction. The Issuer verifies ARQC to authenticate the validity of the card.

In this instance, the stand-in authorization mainly refers to the case in which CUPS generates ARQC on behalf of the Issuer and compare the result with ARQC from the card. Issuers could be divided into two groups, Early Issuers and Full Issuers, that is, partial migration (means that the Participant has no ability to authenticate cards, or receive IC card information regarding card authentication) and full migration (means that the Participant has the ability to authenticate cards and receive IC card information regarding card authentication), according to the migration status of Issuers towards CUPIC debit/credit standards. For early Issuers who request stand-in verification, CUPS will generate ARQC on behalf of them and store the authentication result in Field 61.6. As for full Issuers who request stand-in verification, CUPS will generate ARQC on behalf of them and store the comparison result in Field 61.6 and send it to the Issuers.

The ARPC generated during the stand-in verification shall be stored in the Issuers confirmation data with tag 91 to be sent to the card in order to verify the validity of the card.