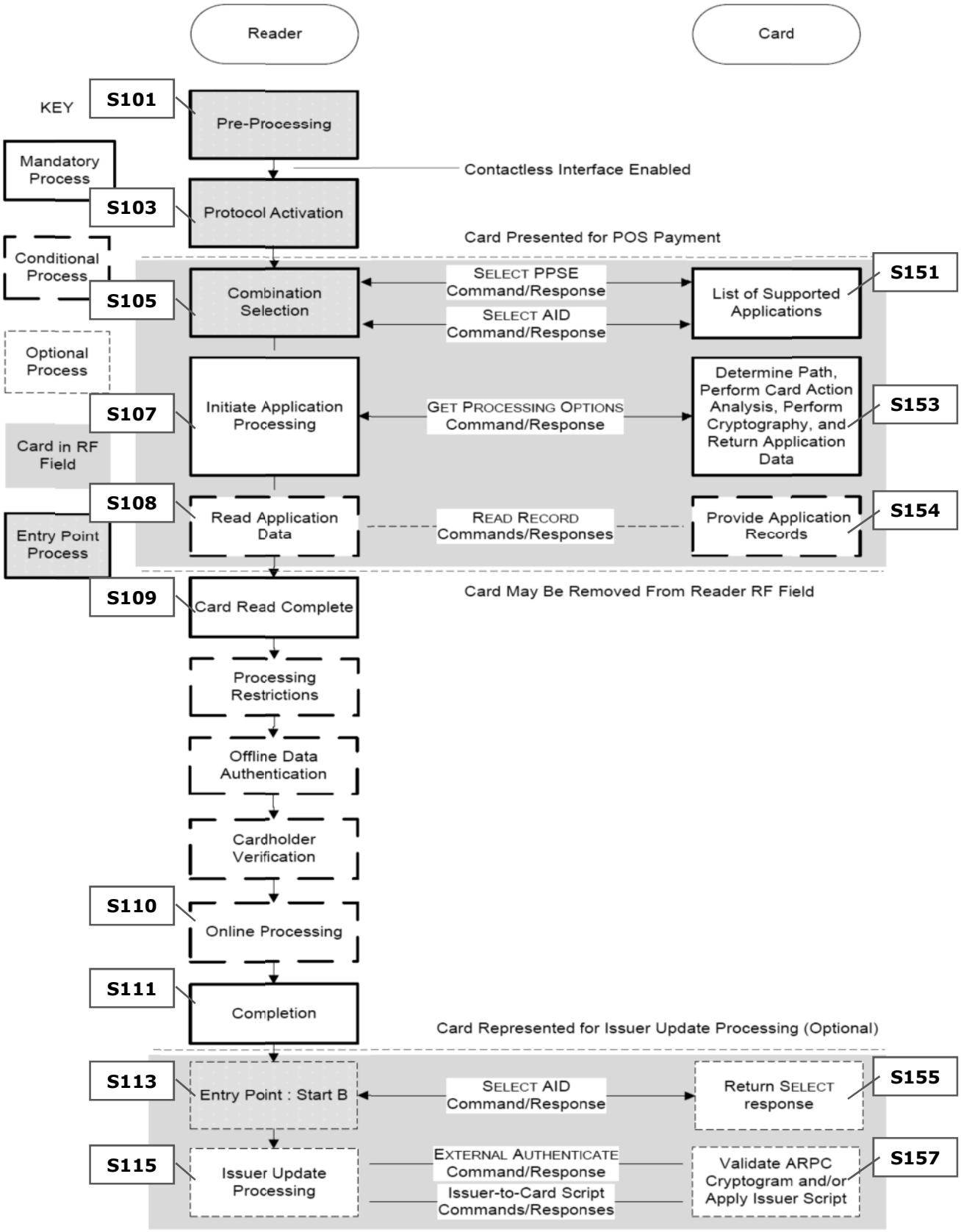

Reader
Card
KEY
Mandatory Process
Conditional Process
Optional Process
Card in RF Field
Entry Point Process
S101
Pre-Processing
Contactless Interface Enabled
S103
Protocol Activation
Card Presented for POS Payment
S105
Combination Selection
SELECT PPSE Command/Response
SELECT AID Command/Response
List of Supported Applications
S151
S107
Initiate Application Processing
GET PROCESSING OPTIONS Command/Response
Determine Path, Perform Card Action Analysis, Perform Cryptography, and Return Application Data
S153
S108
Read Application Data
READ RECORD Commands/Responses
Provide Application Records
S154
S109
Card Read Complete
Card May Be Removed From Reader RF Field
Processing Restrictions
Offline Data Authentication
Cardholder Verification
S110
Online Processing
S111
Completion
Card Represented for Issuer Update Processing (Optional)
S113
Entry Point : Start B
SELECT AID Command/Response
Return SELECT response
S155
S115
Issuer Update Processing
EXTERNAL AUTHENTICATE Command/Response
Issuer-to-Card Script Commands/Responses
Validate ARPC Cryptogram and/or Apply Issuer Script
S157

FIG. 1

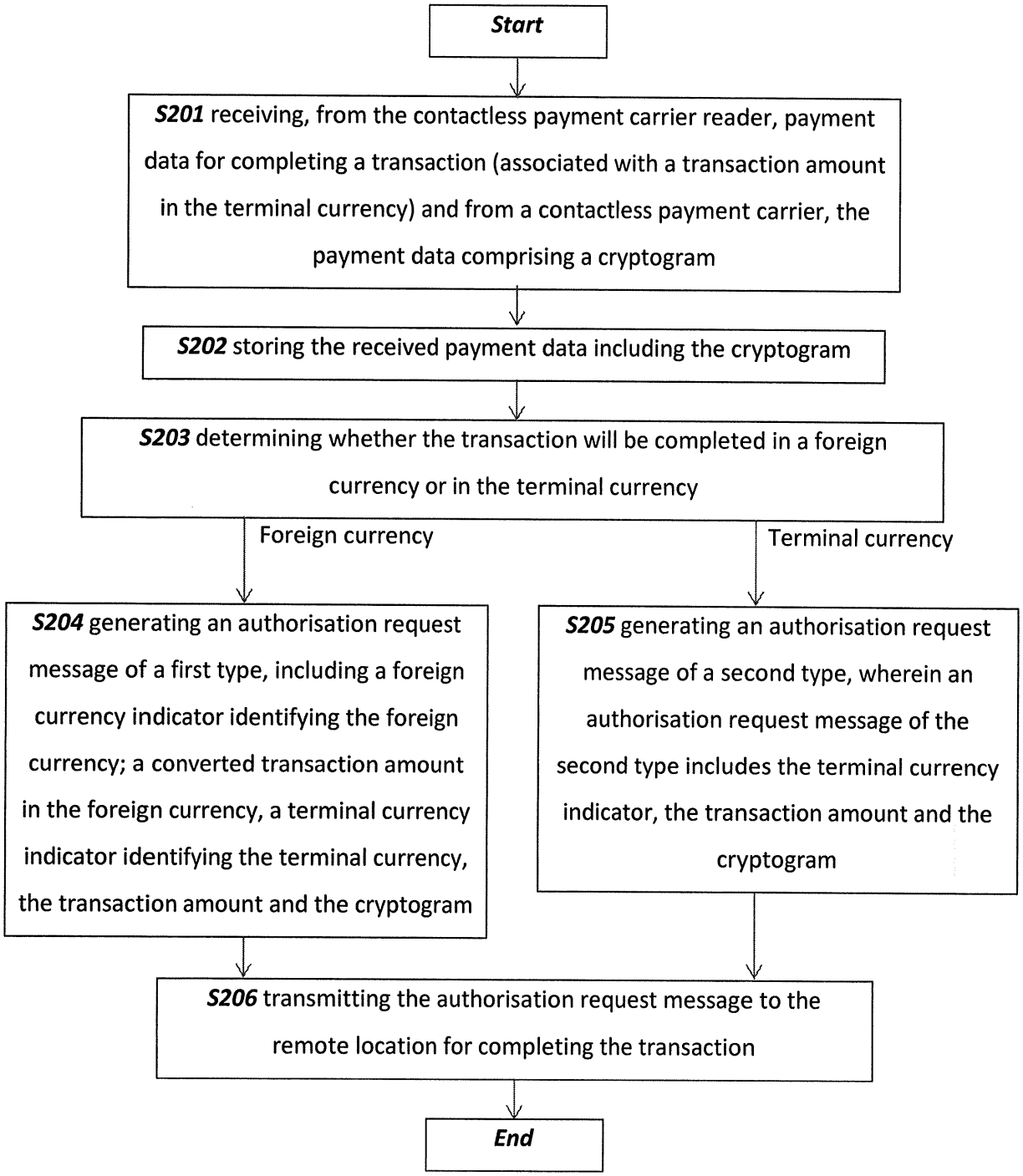

Start
S201 receiving, from the contactless payment carrier reader, payment data for completing a transaction (associated with a transaction amount in the terminal currency) and from a contactless payment carrier, the payment data comprising a cryptogram
S202 storing the received payment data including the cryptogram
S203 determining whether the transaction will be completed in a foreign currency or in the terminal currency
Foreign currency
Terminal currency
S204 generating an authorisation request message of a first type, including a foreign currency indicator identifying the foreign currency; a converted transaction amount in the foreign currency, a terminal currency indicator identifying the terminal currency, the transaction amount and the cryptogram
S205 generating an authorisation request message of a second type, wherein an authorisation request message of the second type includes the terminal currency indicator, the transaction amount and the cryptogram
S206 transmitting the authorisation request message to the remote location for completing the transaction
End

FIG. 2

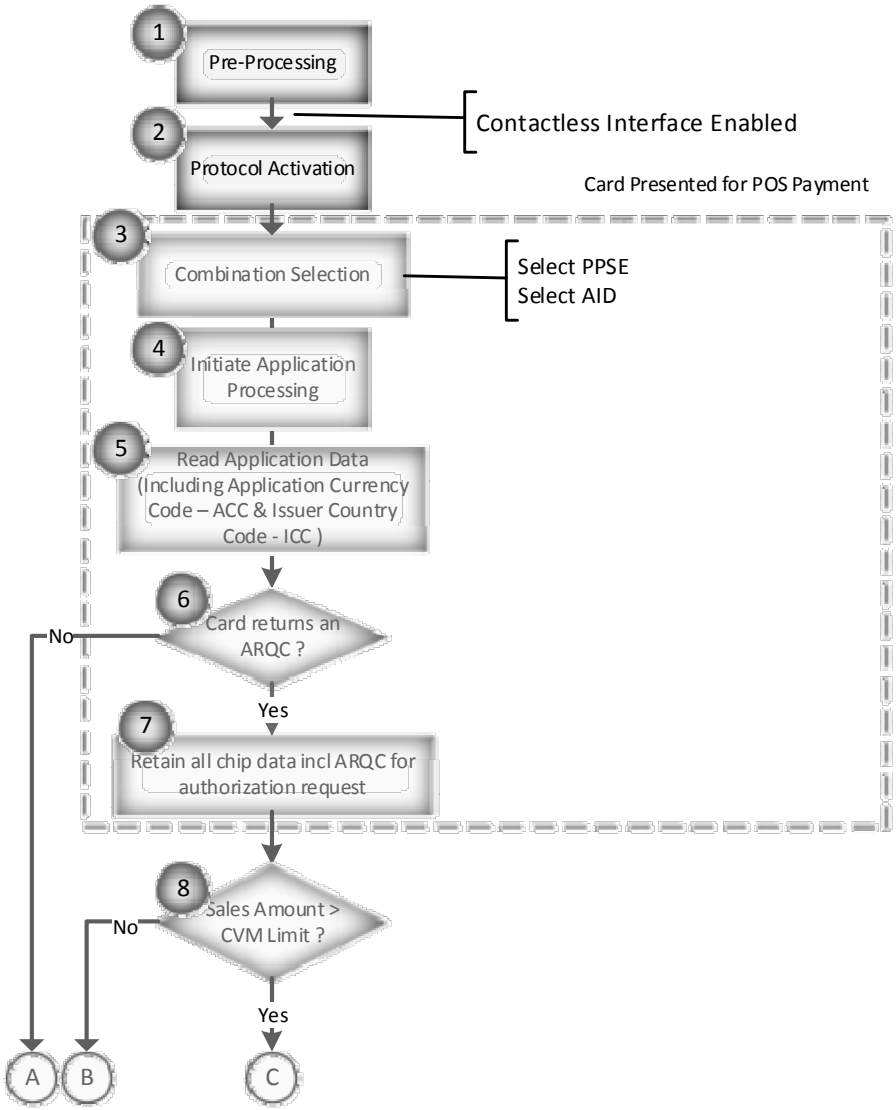

1
Pre-Processing
2
Protocol Activation
Contactless Interface Enabled
Card Presented for POS Payment
3
Combination Selection
Select PPSE
Select AID
4
Initiate Application Processing
5
Read Application Data (Including Application Currency Code – ACC & Issuer Country Code - ICC)
6
Card returns an ARQC ?
No
Yes
7
Retain all chip data incl ARQC for authorization request
8
Sales Amount > CVM Limit ?
No
Yes
A
B
C

FIG. 3A

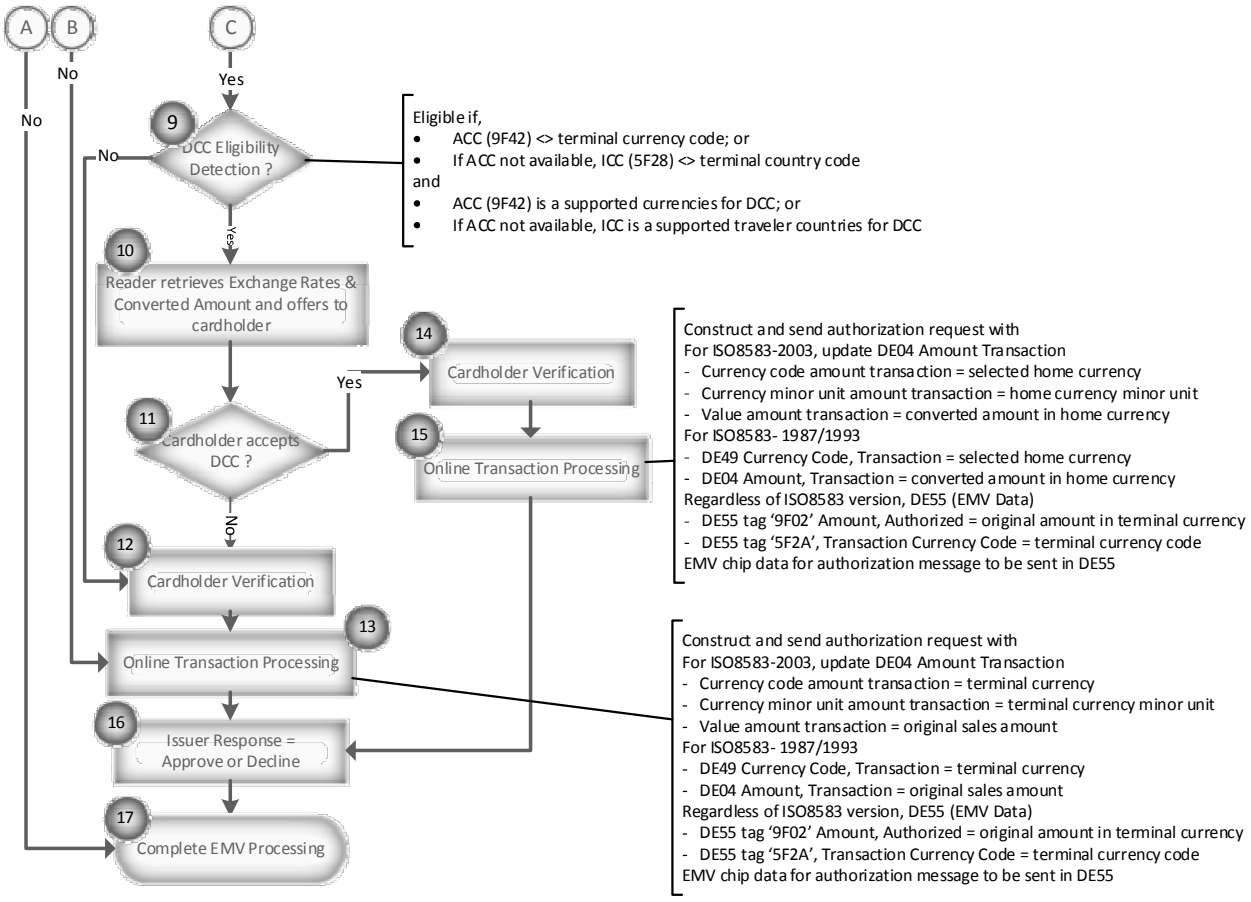

A
B
C
No
Yes
No
9
DCC Eligibility Detection ?
No
Yes
Eligible if,
• ACC (9F42) <> terminal currency code; or
• If ACC not available, ICC (5F28) <> terminal country code
and
• ACC (9F42) is a supported currencies for DCC; or
• If ACC not available, ICC is a supported traveler countries for DCC
10
Reader retrieves Exchange Rates & Converted Amount and offers to cardholder
14
Cardholder Verification
Yes
11
Cardholder accepts DCC ?
15
Online Transaction Processing
No
12
Cardholder Verification
13
Online Transaction Processing
16
Issuer Response = Approve or Decline
17
Complete EMV Processing
Construct and send authorization request with
For ISO8583-2003, update DE04 Amount Transaction
- Currency code amount transaction = selected home currency
- Currency minor unit amount transaction = home currency minor unit
- Value amount transaction = converted amount in home currency
For ISO8583- 1987/1993
- DE49 Currency Code, Transaction = selected home currency
- DE04 Amount, Transaction = converted amount in home currency
Regardless of ISO8583 version, DE55 (EMV Data)
- DE55 tag '9F02' Amount, Authorized = original amount in terminal currency
- DE55 tag '5F2A', Transaction Currency Code = terminal currency code
EMV chip data for authorization message to be sent in DE55
Construct and send authorization request with
For ISO8583-2003, update DE04 Amount Transaction
- Currency code amount transaction = terminal currency
- Currency minor unit amount transaction = terminal currency minor unit
- Value amount transaction = original sales amount
For ISO8583- 1987/1993
- DE49 Currency Code, Transaction = terminal currency
- DE04 Amount, Transaction = original sales amount
Regardless of ISO8583 version, DE55 (EMV Data)
- DE55 tag '9F02' Amount, Authorized = original amount in terminal currency
- DE55 tag '5F2A', Transaction Currency Code = terminal currency code
EMV chip data for authorization message to be sent in DE55

FIG. 3B

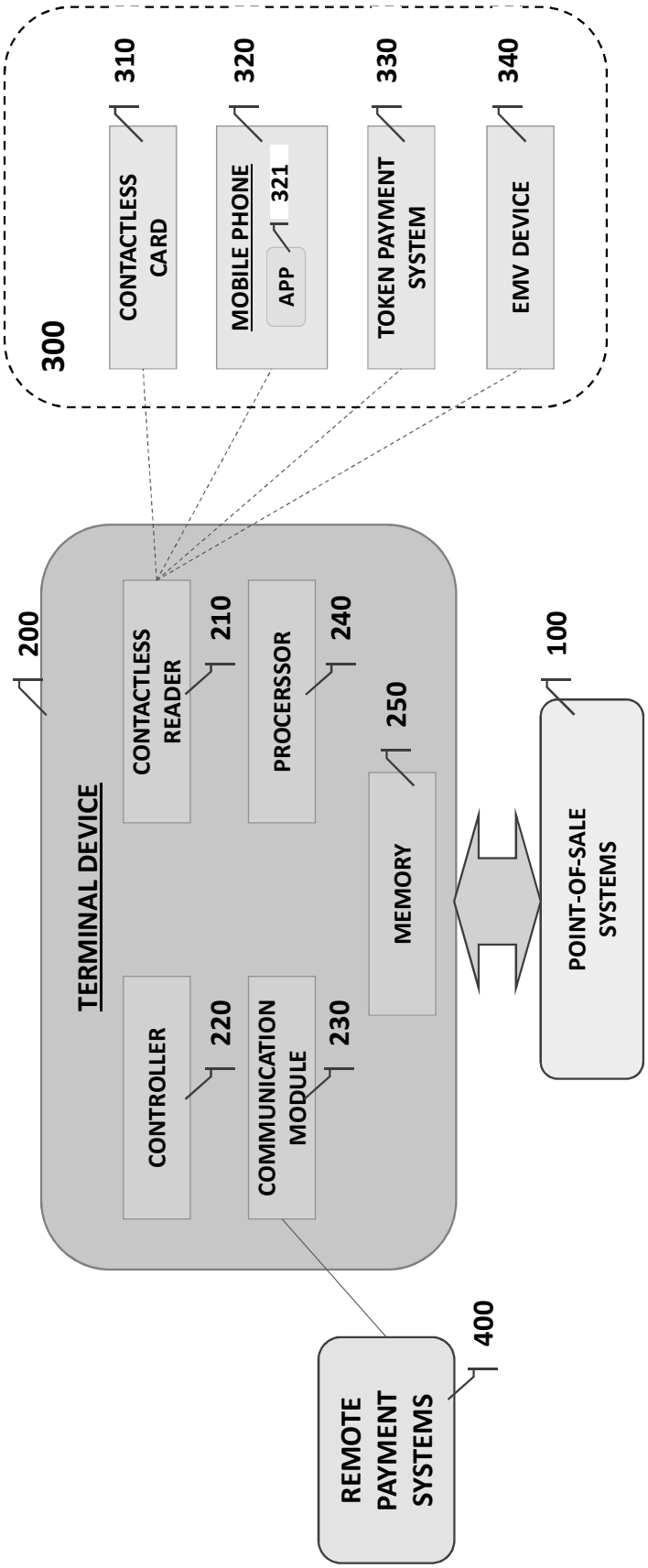

300
CONTACTLESS CARD
310
MOBILE PHONE
APP
321
320
TOKEN PAYMENT SYSTEM
330
EMV DEVICE
340
200
TERMINAL DEVICE
CONTACTLESS READER
210
PROCERSSOR
240
MEMORY
250
CONTROLLER
220
COMMUNICATION MODULE
230
100
POINT-OF-SALE SYSTEMS
REMOTE PAYMENT SYSTEMS
400

FIG. 4

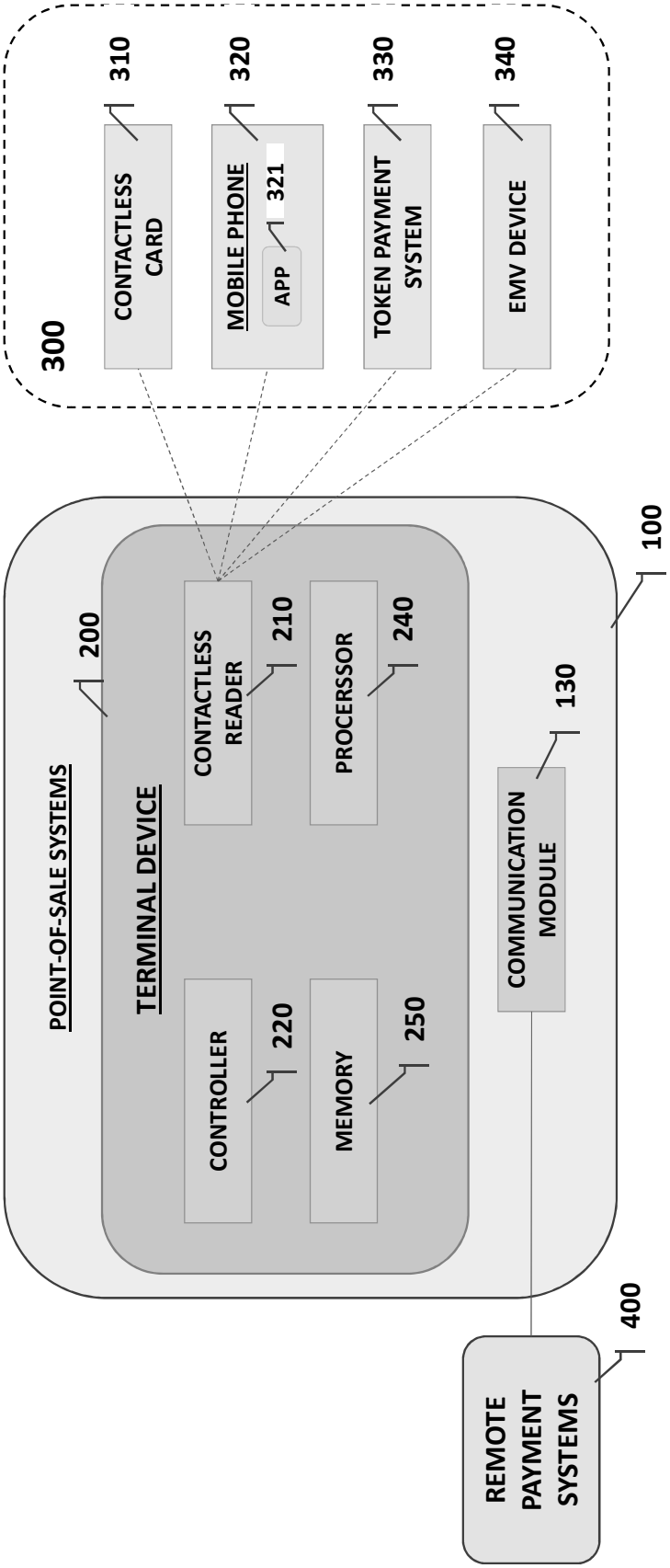

300
CONTACTLESS CARD
310
MOBILE PHONE
APP
321
320
TOKEN PAYMENT SYSTEM
330
EMV DEVICE
340
POINT-OF-SALE SYSTEMS
200
TERMINAL DEVICE
CONTACTLESS READER
210
PROCERSSOR
240
CONTROLLER
220
MEMORY
250
COMMUNICATION MODULE
130
100
REMOTE PAYMENT SYSTEMS
400

FIG. 5