CB TEST CARDS & CB DEVELOPMENT CARDS

INSTRUCTIONS FOR USE

Version: 1.5

Date: 27/01/2023

CHANGE TRACKING

Version	Date	Changes
0.0.1	03/11/2020	Reproduction of document 4.4 BC
1.1	29/04/2021	Editorial update of key indexes
1.2	27/01/2022	Annual Review
1.3	17/03/2022	Added table SAE response codes
1.4	25/04/2022	Details on card limits (p.6) and information on minimum transaction (p.7)
1.5	**27/01/2023**	Delete various sets and modify V18 for V19 on standard sets

IN BREVIATIONS

- CB Credit cards
- GCB Groupement des Cartes Bancaires
- SAT Test Authorization Server
- SICB Bank Card Information System
- STET Transaction Authorization and Clearing Routing Network

SUMMARY

1 INTRODUCTION

CB offers cards to allow the development, integration and maintenance of electronic payment applications on acceptance system.

There are two types of cards:

- **Test cards** that can be used for installation, integration, application maintenance activities in real environment ,
- **Development cards** that can be used for development, testing, application maintenance activities in a laboratory environment.

Visual of the test cards

These cards can operate in contact mode and optionally in contactless mode. When a card works in both modes, it is called a '**dual interface'** card. They make it possible to carry out payment transactions.

This document describes the implementation principles as well as the catalogue of these maps.

2 IMPLEMENTATION

Preamble: The implementation is identical to that described in the catalogue.

In order for test and development CB cards to be accepted on an acceptance system, it is necessary to:

- that this system is loaded with, at lis, a CB application that works in contact mode and / or contactless (depending on the type of transaction to be made) and initialized via an acquiring system .
- That the application(s) loaded are initialized with a merchant contract that allows the use of these cards and that can be:
  - **" Real ": issued by your bank**
  - **" CB test " : proposed by Elitt**
- That the acceptance system is connected to an authorization server (test or development) depending on the type of card used.

2.1 CB test Cards

Test CB cards are accepted on acceptance systems installed at a merchant or on a maintenance platform and connected to an acquiring system (either an acquiring bank or a CB test acquirer). They make it possible to carry out '**offline**' or '**online**' transactions (connection to an authorization server).

Only the **CB Test Authorization Server** (SAT) is authorized to issue authorizations. All CB test cards are declared on the CB test authorization server (with the exception of the Tier 10 card of the various sets – PAN of 19 digits). This server makes it possible to process authorization requests issued by these cards by performing risk management (map settings control , flow control; opposition list) and cryptographic calculations (ARQC verification, ARPC calculation).

It is configured for each card with a ceiling of 50 euros over 7 sliding days in contact and contactless.

WARNING: if the ceiling of 50 € is reached on one day, the user of the card will have to wait 7 working days for the meters to reset.

Example of how a test board works :

Day	**Transaction amount**	**Transaction Type**	**Cumulative amount authorization** server	**Server** Decision
D	18€	Online	18€	Transaction accepted
D+1	4€	Online	22€	Transaction accepted
D+4	14€	Online	31€	Transaction accepted
D+7	15€	Online	51€	Transaction declined
D+7	6€	Online	57€	Transaction accepted
D+8	-	-	18€*	-

* (Amount **D+7) – (Amount J)**

Transactions can also be made without an authorization request (offline transaction). These transactions can be carried out within the limits of the defined amount and number valued in each profile.

Two types of merchant contract allow you to accept test CB cards: The test

- **merchant contract , for sale on Elitt E-Shop**
- **The merchant contract of an acquiring bank.**

Only these merchant contracts can be used because they are associated with an acquirer center connected to the banking network (STET) which allows the routing of the transactions carried out with the CB test cards to the CB test authorization server .

A set of data transmitted to the various acquiring centers via the SICB makes it possible to initialize the acceptance systems to accept CB test cards. These include:

- The BIN : 501767 (this BIN must be defined as a test BIN but it must also be authorized by the purchaser to whom the acceptance system is connected),
- The public value of CA bins and associated parameters.

Minimum transaction:

- If the merchant contract is set to CB 5.5, then the minimum transaction accepted is **€0.15** per card

- If the merchant contract is set to FRV6, then the minimum transaction accepted is **€0.01** per card (verification possible on table 40 which manages the minimum amounts entered).

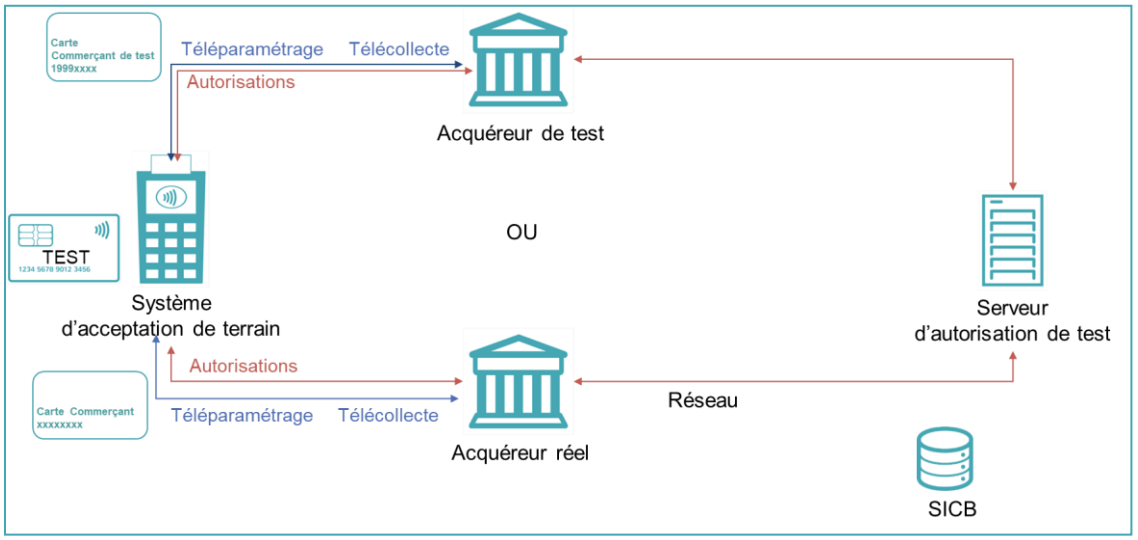
Notes :

- The initialization of the CB application with the CB test merchant contract is carried out using a test merchant card (P03 card). This card will make it possible to carry out credit or cancellation transactions (see Notice merchant contracts test).
- Transactions carried out in this configuration are cancelled during compensation by the remote collection centers (acquirer).
- Some types of CB payment applications, such as **ATM** payment, require switching from PRODUCTION mode to TEST mode to allow acceptance of CB Test cards. Failover arrangements are the responsibility of the acceptance solution provider.

IT IS IMPERATIVE TO MAKE A TRANSACTION IN CONTACT MODE BEFORE USING THE CARD IN CONTACTLESS MODE .

The acceptance system will generate an authorization request for the first transaction made with this transaction. Thecard ns-contact application will be activated only on a positive response from the Test Authorization Server, following the authorization request .

Based on the VISA application, the transition to CVN18 requires the authorization server to manage the CSU "Card Status Update" and in particular the 2-bit 8-2-1 byte. Indeed, at the output of customization, the contactless interface is activated (DF30 ='03'), but the available funds (VLP Available Funds) are at 0.



Implementation diagram of Test "CB" cards

2.2 CB Development Cards

The implementation of a test authorization simulator and server is the responsibility of the developer board user. He must ensure that the value of the keys, necessary for the proper functioning of the "CB" Development cards, are well informed and he knows the chosen policy :

- Declaration of cards
- Risk management (cap, card opposition) Card
- application blocking / unblocking

ELITT provides the document VALUES OF THE DEVELOPMENT KEYS in which are specified the values of the keys necessary for the operation of these cards (calculation of transaction cryptogram , offline authentication).

For Development CB cards to be accepted by an acceptance system, the CB payment application must be initialized. This initialization is done by loading data via a simulator or a test acquiring system. These include:

- The BIN : 507100,
- The public value of the CA key pairs and associated parameters provided by ELITT in the document VALUES OF DEVELOPMENT KEYS.

Development CB cards are not accepted on field acceptance systems. Online transactions are not routed through the interbank authorisation network to ELITT's test server.

The tables and diagram below recall the contexts of use :

"CB" " Contact Only" Development Cards :

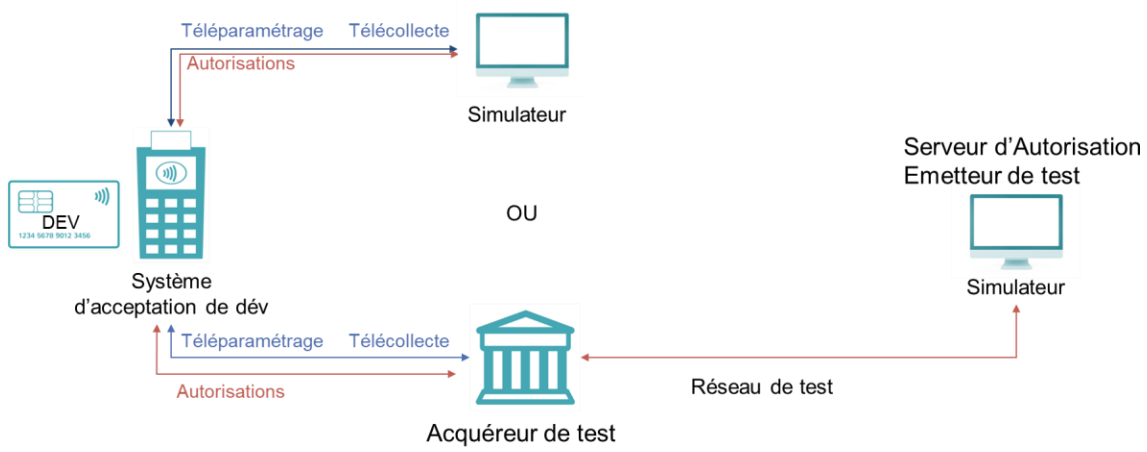
	Development Environment (with test network)	**Development** Environment (with simulator)
"Offline" payment	Possible*	Possible*
Online payment	Possible*	Possible*
Withdrawal	Possible*	Possible*

*Possible : Transactions can be finalized.

"CB" "DUAL Interface" Development Cards:

	Development environment (with test network)	**Development** Environment (with simulator)
"Offline" payment	Possible*	Possible*
Online payment	Possible*	Possible*
Withdrawal	Impossible	Impossible

*Possible : Transactions can be finalized.



Implementation diagram of the "CB" maps of Development

Note: certain types of "CB" payment application, such as payment on ATM, require the transition from "PRODUCTION" mode to "TEST" mode to allow the acceptance of Development "CB" cards in the event that the remote parameterization performed from a simulator or a test acquiring system has defined the BIN used for Development "CB" cards as a test BIN. Failover arrangements are the responsibility of the acceptance solution provider.

IT IS MANDATORY TO MAKE A TRANSACTION IN CONTACT MODE BEFORE USING A CARD IN CONTACTLESS MODE.

2.3 CVN 18 - Evolution of cards based on Visa

2.3.1 Activating the contactless app

Based on the VISA application, the transition to CVN18 requires the authorization server to manage the CSU "Card Status Update" and in particular the 2-bit 8-2-1 byte. Indeed, at the end of customization, the contactless interface is activated (DF30 ='03'), but the available funds (VLP Available Funds) are at 0.

2.3.2 Management of "card" counters

You must update the authorization server by integrating CSU management rules to manage your new Vis based cards with CVN 18.

The difference between the ST11 V17 and V18 lies in the CVN 18 used on the Visa Application Base (_V). However, the management of this new CVN involves having to update the response rules of the authorization server to integrate new data.
" CSU " used to reset counters .

2.3.2.1 CSU

- Authentication Data [Reminder: Issuer Authentication Data; conveyed in CBAE field 55-0091].

IAD for CVN 18	
1-4	ARPC cryptogram
5-8	**CSU (Card Status Update)**
9-10	Proprietary Authentication Data

- Rules implemented on SAE :

Item	CSU valuation	Location
Declined transaction – With or without PIN entry ⇨ Unmodified offline and online counters	'00 00 00 00	Byte 2 bit 2-1 = '00'
Accepted transaction - PIN entered and checked "online" or "offline" ⇨ "Offline" and "online " counters reset	'00 82 00 00	Byte 2 bit 8 = 1 Byte 2 bit 2-1 = '10'
Transaction accepted – No code entry confidential ⇨ Unmodified offline and online counters	'00 80 00 00	Byte 2 bit 8 =1 Byte 2 bit 2-1 = '00'

2.3.2.2 Management of the ARPC

The ARPC will be overloaded with offset 1 to 4. Below is an explanatory table of the evolution of the IAD format to be taken into account between the IAD of CVN 10 and the IAD of CVN18:

Avec CVN 10	
1-8	ARPC cryptogram
9-10	Response code
Avec CVN 18	
1-4	ARPC cryptogram
5-8	CSU (Card Status Update)
9-10	Proprietary Authentification Data

2.3.2.3 Identification of cards based on CVN 18 screws

The offset 7 valued at 4 indicates the new generations of card. The explanatory table on the management of our BIN 507100 below will allow you to easily integrate your card type detection rules on your authorization server

Répartition plages de BIN 507100 - cartes de développement

6	1	2		1		5	1			
BIN	Digit Incrémental	Identification Base applicative		Type de lot		Plage	Clé de Lühn	Type	Version de clé	CVN
507100	4	"15"	VIS 1.5.4 (contact) VCPS 2.1.2 (Dual)	"0"	Lot 11 - Standard Dual	10001 - 11999	X	ST11Dd_V_19	01	18
				"2-9"	Ruf	00001 - 99999	X	Ruf	-	-
507100	4	25	M/Chip Advance 1.2 (Dual)	"0"	Lot 11 - Standard Dual	10001 - 11999	X	ST11Dd_MC_19	01	10
				"2-9"	Ruf	00001 - 99999	X	Ruf	-	-

3 GENERAL PRESENTATION OF CARD SETS

Preamble: the general presentation of the card sets is identical to that described in the catalog with an add-on on the 3DES and RSA keys.

3.1 Main characteristics of a set

Each set is composed of 10 cards whose main characteristics are gathered in the table below with an identifier structured as follows: TL | VBA | (D) | x |BA | yy | VL with

TL = Set Type	ST	Standard set - all cards in the set are identical
	GOES	Varied set - each card in the set has a specific profile
VBA= Application Base Version	11	M/Chip Advance 1.2.1 – Visa 1.5.4/VCPS 2.1.2
D = Dual Interface Technology	D	Optional – Dual interface (contact and contactless)
x = Card type	r	Test card
	d	Development Map
BA= Application Base	V	Visa
	MC	MasterCard
yy = rank	01 to 10	Card number in a varied set
VL = Set Version	19	18 for all sets of this version of the instructions for use
RSA Keys		CA key : 1408-bit Transmitter key : 1408 exponent 3 Card key: 1152 bits exponent 3 except exceptions indicated below

3.2 List of sets

3.2.1 Standard sets of CB test cards on MasterCard application-based

Identifier Set	Type of set	Application Base Version	Techno.	Card Type	Application base	Card rank	Version Set	Product	Characteristics
ST11DR™	Standard	M/Chip Advance 1.2.1	Dual interface	Test	MasterCard	-	19	SOLVO Fly CB 10	CB and MCW APPLICATIONS - PAYMENT/WITHDRAWAL

3.2.2 Standard sets of CB test cards on Visa application based

Identifier Set	Type of set	Application Base Version	Techno.	Card Type	Application base	Card rank	Version Set	Product	Characteristics
ST11DrV	Standard	VIS 1.5.4 and VCPS 2.1.2	Dual interface	Test	Visa	-	19	SOLVO Fly CB 10	CB and VISA APPLICATIONS - PAYMENT/WITHDRAWAL

3.2.3 Standard sets of CB development cards based on MasterCard application

Set ID	Set type	Application Base Version	Techno.	Card Type	Application base	Card rank	Set version	Product	Characteristics
ST11Dd™	Standard	M/Chip Advance 1.2.1	Dual interface	Dev.	MasterCard	-	19	SOLVO Fly CB 10	CB and MCW APPLICATIONS - PAYMENT/WITHDRAWAL

-

3.2.4 Standard sets of CB development cards based on Visa applications

Set ID	Set type	Application Base Version	Techno.	Card Type	Application base	Card rank	Set version	Product	Characteristics
ST11DdV	Standard	VIS 1.5.4 and VCPS 2.1.2	Dual interface	Dev.	Visa	-	19	SOLVO Fly CB 10	CB and VISA APPLICATIONS - PAYMENT/WITHDRAWAL

3.2.5 Structure of the PAN

The PAN is structured as follows: BIN | Identifier | Card sequential number| Luhn key with:

.BIN	507100 for development cards
	501767 for test cards
Identifier	4 digits attributed by CB
Card sequential number	5 digits assigned by the CB test cards service, the last four of which correspond to the confidential code

Special case:

PAN with 19 digits	Insertion from three digits to 0 before the PAN sequential number

3.2.6 Code PIN

The PIN code corresponds to the first four digits of the card number as described below:

- 501767XXXXXPPPPL
- 507100XXXXXPPPPL

Examples :

- 5071000000152369; the PIN code is 5236
- 507100000999 PIN code is 0099

3.2.7 Features of the magnetic stripe

It is a three-track banner with high coercivity, ISO1 and ISO2 encoding.

- The service code is valued at 901 except for 'CB only ', CB and Visa cards , CB and MC with systematic authorization (921), ' CB only' withdrawal card (903).
- The PVV data is calculated with index key 9 for development cards and 8 for test cards .
- CVV and CVC data are not present (there is no CVV in the chip)
- The discretionary data field of the ISO2 track is supplemented by 0s so that the total length encoded is 40 characters.
- The data 'Cardholder name', 'PAN', 'Card expiration date' must correspond to the custom data in the CB application.

3.2.8 Keys

3.2.8.1 3DS Keys

- All 3DS keys are 128 bits long.
- The keys of the CB test cards are of secret value. They are not broadcast and are only present on the CB test authorization server.
- The keys to the development CB cards are of known value.

List of keys :

- Transaction Certificate Calculation Key (TC/AAC/ARQC/ARPC)
- Secure messaging key for privacy
- Secure messaging key for integrity
- ICC Dynamic Number (IDN) Calculation Key

The algorithms used for the calculation of cryptogram depend on the application base:

- VIS: CVN = '12'h (hexadecimal value)
- MC: CVN = '10'h (hexadecimal value)

3.2.8.2 Track Keys

Calculation key of the online PIN verification value (by SAT or simulator / Test sending server) customized on the track

3.2.8.3 RSA Keys

List of keys :

- Certificate Authority (CA) Key
- Transmitter key
- Card Bi-key

Set Type	**Map**	**Application**	**Certificate Authority (CA)** Key Pair			**Transmitter** key		**Card** Bi-key	
			Index	**Waist**	**Exponent**	**Waist**	**Exponent**	**Waist**	**Exponent**
Standard		CB/VISA/MC	See below	1408	3	1408	3	1152	3
Varied	1			1408	3	1408	3	1152	3
	2			1984	3	1952	3	1152	3
	3			-	-	-	-	-	-
	4			1984	3	1952	3	1408	3
	5			1984	3	1952	3	1632	3
	6			1408	3	1408	3	1152	$2^{16}+1$
	7			1408	3	1408	3	1152	3
	8			1408	3	1408	3	1152	3
				1408	3	1408	3	1152	$2^{16}+1$*
	9			1408	3	1408	3	1152	3
	10			1408	3	1408	3	1152	3

*PIN encryption

Card Type	Test			Development		
Application	CB	Visa	MC	CB	Visa	MC
1408-bit AC Dual-Key Index	07			86	88	91
1984-bit AC Dual-Key Index	08			89	92	93

The values of the development keys are provided by ELITT in a specific document.

3.3 Listing SAE Response Error Codes

Error code	Meaning	Error message	Case of the appearance of this code
05	EMV: CVR and PIN Control	" Do not honor "	The tester entered 3 fake PINs on the card in "offline" mode
	RVC control		The tester makes a transaction with a card put in opposition
	Verification of the ARQC (CA)		Field 55-9F26 (Cryptogram App) is not consistent
14	Control carrier number	" Invalid bearer number "	The map PAN is not compliant
15	BIN/ Test Card ID Control	" Unknown card issuer"	The tester uses a bank card other than a CB test card
30	Control of the CVR	"Format Error"	Field 55-9F10 (IAD) is not present in the map for example.
	ISO track 1, 2 or equivalent		ISO track 2 (chip or track origin) is not compliant
	Audit of the IDA		Unjustified absence of IDA (field 55) in the map
34	Counterfeit card control	" Suspicion of fraud "	The tester uses a fake card whose PAN does not belong to the range defined on the server.
40	Scope of transactions processed	"Requested function not supported "	The transaction presented is outside the scope of application 0100 (Payment & withdrawal) or 0400 (recovery)
	Rejection of tracked contactless cards		Contactless transactions made with a contactless track card are refused by the Server.
51	Credit check	" Insufficient funds or exceeded credit "	The tester has reached the payment ceiling of 30€ over 7 rolling days

54	Check expiry date	"Card expiry date "	The tester uses a card that has an expired validity date
55	False code threshold exceeded	"Incorrect PIN "	The tester entered 3 fake PINs on the card and the server rejects the transaction
56	Positive algorithm	" Map not on file "	The card number is not present in the file called "positive" = not declared on the server
57	Card type/transaction type consistency	" Transaction not permitted to this holder "	The tester makes a payment transaction with a specific withdrawal card for example
	Runway retreat		A Payment or Withdrawal transaction made using a GCB card in track mode is refused by the Server
	Supplementary invoice (PLBS)		The "File number" field (field 47-24) must be present and filled in at a value in accordance with the CBAE protocol.
59	Consistency expiry date	" Suspicion of fraud "	The tester uses a payment card that has an expired validity date
61	Credit check	"Out-of-limit withdrawal amount "	The tester has reached the card's withdrawal limit of €30 over 7 rolling days

4. Detailed description of the sets

4.1 ST11Dr and ST11Dd Sets

ST11Dx™ SET - CB and MCW applications - PAYMENT/WITHDRAWAL - DUAL INTERFACE - MCHIP ADVANCE									
Tag	**Name**	**Lg (hexa)**	**Acce ss s (hexa)**	**Value (Hexa)**		**Contact / Contactl ess**	**Signed**	**Partage**	**Feedback**
				Servant	**International**				
	AC Master Key (Contact)	10				C		C	Test card : Key version 03 Dev cards : Key version 00
	AC Master Key (Contactless)	10				SC		C	Test board : Key version 0 Dev cards : Key version 00
	AC Session Key Counter (Contact)	02		0000		C		C	
	AC Session Key Counter (Contactless)	02		0000		SC		C	
DF3A	AC Session Key Counter Limit(Contact)	02	PUT DATA	FFFF		C		C	
DF34	AC Session Key Counter Limit(Contactless)	02	PUT DATA	FFFF		SC		C	
DF11	Accumulator 1 Control (Contact)	01	GET DATAPUT DATA	C0		C		C	
DF12	Accumulator 1 Control (Contactless)	01	GET DATAPUT DATA	C0		SC		C	
C9	Accumulator 1 Currency Code	02	GET DATAPUT DATA	0978				C	
D1	Accumulator 1 Currency ConversionTable	19	GET DATAPUT DATA	0978000000 0978000000 0978000000 0978000000 0978000000				C	
DF28	Accumulator 1 CVR DependencyData (contact)	03	GET DATAPUT DATA	000000		C		C	
DF29	Accumulator 1 CVR DependencyData (contactless)	03	GET DATAPUT DATA	000000		SC		C	
CA	Accumulator 1 Lower Limit	06	GET DATAPUT DATA	000000160000	000000160000			S	

CB	Accumulator 1 Upper Limit	06	GET DATAPUT DATA	000000200000	000000200000			S	
DF14	Accumulator 2 Control (Contact)	01	GET DATAPUT DATA	00		C		C	
DF15	Accumulator 2 Control (Contactless)	01	GET DATAPUT DATA	C0		SC		C	

DF16	Accumulator 2 Currency Code	02	GET DATA PUT DATA	0978			C	
DF17	Accumulator 2 Currency Conversion Table	19	GET DATA PUT DATA	0978000000 0978000000 0978000000 0978000000 0978000000			C	
DF2A	Accumulator 2 CVR Dependency Data (contact)	03	GET DATA PUT DATA	000000	C		C	
DF2B	Accumulator 2 CVR Dependency Data (contactless)	03	GET DATA PUT DATA	000000	SC		C	
DF18	Accumulator 2 Lower Limit	06	GET DATA PUT DATA	000000014000	000000014000		S	
DF19	Accumulator 2 Upper Limit	06	GET DATA PUT DATA	000000014000	000000014000		S	
D5	Application Control (Contact)	06	GET DATA PUT DATA	0C 00 80 00 41 02	0C 00 80 00 41 02	C	S	
D7	Application Control (Contactless)	06	GET DATA PUT DATA	00 00 80 10 40 00	00 00 80 10 40 00	SC	S	
4F	ADF Name	07	SELECT AID	A0000000421010	A0000000041010		S	
5F25	Effective Application Date	03	READ RECORD UPDATE RECORD				S C	valued by the customizer
5F24	Application Expiration Date	03	READ RECORD				S C	valued by the customizer
94	Application File Locator (AFL) (Contact)	Var.	GPO GET DATA PUT DATA			C	S	valued by the customizer
D9	Application File Locator (AFL) (Contactless)	Var.	GPO GET DATA PUT DATA			SC	S	valued by the customizer
82	Application Interchange Profile (AIP) (Contact)	02	GPO PUT DATA	3900	3900	C	S	S
D8	Application Interchange Profile (AIP) (Contactless)	02	GPO PUT DATA	1980	1980	SC	S	S
50	Label application	10	SELECT READ RECORD	CB	MASTERCARD		S	
9F7E	Applicaton Life Cycle Data	48	GET DATA				C	valued by the customizer

50	Label App	10	SELECT	CB	MASTERCARD			S	
5A	Application Primary Account Number (PAN)	10	READ RECORD				S	C	Test cards : 501767 4 25 0 xxxxx l Dev cards : 507100 4 25 0 xxxxx l
5F34	Application Primary Account Number (PAN) Sequence number	01	READ RECORD	00	00		S	S	
87	Priority Indicator Application	01	SELECT READ RECORD	01	02			S	in response to SELECT PPSE/AID
9F0A	Application Selection Registered Proprietary Data	08	SELECT	0001050100000000				C	Debit Product
9F36	Application Transaction Counter (ATC)	02	GPO GET DATA GEN AC	0000				C	
	Application Transaction Counter limit	02		FFFF				C	
9F07	Application Usage Control (AUC)	02	READ RECORD UPDATE RECORD	FF00	FF00		S	S	
9F08	Application Version Number (AVN)	02	READ RECORD	0003	0002			S	
C3	Card Issuer Action Code (Contact) - Decline	03	GET DATA PUT DATA	11 00 00	11 00 00	C		S	
C4	Card Issuer Action Code (Contact) - Default	03	GET DATA PUT DATA	A8 5C 50	A8 5C 50	C		S	
C5	Card Issuer Action Code (Contact) - Online	03	GET DATA PUT DATA	A8 FF F0	A8 FF F0	C		S	
CF	Card Issuer Action Code (Contactless) - Decline	03	GET DATA PUT DATA	08 F4 F8	08 F4 F8	SC		S	
CD	Card Issuer Action Code (Contactless) - Default	03	GET DATA PUT DATA	00 00 00	00 00 00	SC		S	
THAT	Card Issuer Action Code (Contactless) - Online	03	GET DATA PUT DATA	00 00 00	00 00 00	SC		S	
5F20	Cardholder name	04	READ RECORD	20202020				C	

8Th	Cardholder Verification Method (CVM) list	0E|0A - 12|0E	READ RECORD UPDATE RECORD	00000000 000000000 4201 0103 0203 (contact) 00000000 000000000 1F03 (contactless)	00000000 000000000 4201 4103 5E03 4203 1F03 (contact) 000000000 000000000 5E03 4203 1F03 (contactless)		S	S	
DF62	CBLC	30	GET DATA						valued by the customizer
8C	CDOL1	27	READ RECORD	9F0206 9F0306 9F1A02 9505 5F2A02 9A03 9C01 9F3704 9F3501 9F4502 9F4C08 9F3403 9F2103 9F7C14			S	C	
C7	CDOL1 related data length	01	GET DATA PUT DATA	42				C	
8D	CDOL2	12	READ RECORD	910A 8A02 9505 9F3704 9F4C08 9F0206 9F0306			S	C	
8F	Certificate Authority Public key index	01	READ RECORD					S	See RSA Keys
DF1A	Counter 1 Control (Contact)	01	GET DATA PUT DATA	C0		C		C	
DF1B	Counter 1 Control (Contactless)	01	GET DATA PUT DATA	C0		SC		C	
DF2C	Counter 1 CVR Dependency Data (Contact)	03	GET DATA PUT DATA	000000		C		C	
DF2D	Counter 1 CVR Dependency Data (Contactless)	03	GET DATA PUT DATA	000000		SC		C	
9F14	Counter 1 Lower Limit	01	GET DATA PUT DATA	0A	0A			S	
9F23	Counter 1 Upper Limit	01	GET DATA PUT DATA	0F	0F			S	
DF1D	Counter 2 Control (Contact)	01	GET DATA PUT DATA	00		C		C	
DF1E	Counter 2 Control (Contactless)	01	GET DATA PUT DATA	C0		SC		C	
DF2E	Counter 2 CVR Dependency Data (Contact)	01	GET DATA PUT DATA	000000		C		C	
DF2F	Counter 2 CVR Dependency Data (Contacltess)	01	GET DATA PUT DATA	000000		SC		C	
DF1F	Counter 2 Lower Limit	01	GET DATA PUT DATA	0A	0A			S	

DF21	Counter 2 Upper Limit	01	GET DATA PUT DATA	0A	0A			S	
C8	CRM Country Code	02	GET DATA PUT DATA	0250				C	
	Cryptogram Version Number (CVN)	01	GEN AC	10				C	
DF3C	CVR Issuer Discretionary Data (Contact)	01	GET DATA PUT DATA	00	00	C		S	
DF3D	CVR Issuer Discretionary Daa (Contactless)	01	GET DATA PUT DATA	00	00	SC		S	
	Derivation Key Index	01	GEN AC PUT DATA	00	00			S	
84	DF Name	0E	SELECT PSE	31 50 41 59 2E 53 59 53 2E 44 44 46 30 31				C	"1PAY.SYS. DDF01"
		0E	SELECT FSPP	32 50 41 59 2E 53 59 53 2E 44 44 46 30 31				C	"2PAY.SYS. DDF01"
		Var.	SELECT AID				S	S	
9F49	Dynamic Data Authentication DOL (DDOL)	03	READ RECORD	9F3704		C		C	
BF0C	File Control Information (FCI) Issuer Discretionary Data	5	SELECT AID	9F4D020B19 (contact) DF610104 (contactless)	9F4D020B19 (contact)			C	
	Integrated Circuit Card (ICC) Dynamic Number Master Key (Contact)	10				C		C	Test card: Key version 03 Dev cards: Key version 00
	Integrated Circuit Card (ICC) Dynamic Number Master Key (Contactless)	10				SC		C	Test card: Key version 03 Dev cards: Key version 00
	Integrated Circuit Card (ICC) Private Key	Var.						C	Generated by the customizer – See key sheet
9F46	Integrated Circuit Card (ICC) Public Key Certificate	Var.	READ RECORD					C	calculated by the customizer
9F47	Integrated Circuit Card (ICC) Public Key Exponent	01|03	READ RECORD					C	Generated by the customizer – See key sheet
9F48	Integrated Circuit Card (ICC) Public Key Remainder	Var.	READ RECORD					C	Generated by the customizer - see sheet key
DF3E	Identifier interface	01							

DF30	Interface Enabling Switch	01	GET DATA PUT DATA	03			C	
9F0D	Issuer Action Code - Default	05	READ RECORD UPDATE RECORD	BC 60 24 80 00 (contact) 00 00 00 00 00 (contactless)	BC 60 24 80 00 (contact) 00 00 00 00 00 (contactless)	S	S	
9F0E	Issuer Action Code - Denial	05	READ RECORD UPDATE RECORD	00 10 D8 00 00 (contact) B4 70 E0 00 00 (contactless)	00 10 D8 00 00 (contact) B4 70 E0 00 00 (contactless)	S	S	
9F0F	Issuer Action Code - Online	05	READ RECORD UPDATE RECORD	BC 60 24 98 00 (contact) 00 00 00 00 00 (contactless)	BC 60 24 98 00 (contact) 00 00 00 00 00 (contactless)	S	S	
5F28	Issuer Country Code	02	READ RECORD	0250		S	C	
90	Issuer Public Key Certificate	Var.	READ RECORD					provided by CB - see keysheet
9F32	Issuer Public Key Exponent	01	READ RECORD					provided by CB - see keysheet
92	Issuer Public Key Remainder	Var.	READ RECORD					provided by CB - see keysheet
9F2A	Kernel Identifier	01	SELECT FSPP	02		SC	C	
	Key Derivation Index (Contact)			00		C	C	
	key Derivation Index (Contactless)	01		00		SC	C	
5F2D	Language Preference	04	SELECT PSE/AID	6672 656E 6465 6573			C	fr en de es
9F4D	Log Entry	02	SELECT AID	0B19			C	
9F4F	Log Format	1F	GET DATA	9F0206 9F2701 9F1A02 5F2A02 9A03 9C01 9F5206 9F3602 DF3E01 9F7C14 9F2103			C	
DF24	MTA currency code	02	GET DATA PUT DATA	0978		C	C	
DF26	MTA NoCVM (contactless)	06	GET DATA PUT DATA	000000003000	000000002000	SC	S	

9F17	Personal Identification Number (PIN) try counter	01	GET DATA PIN CHANGE UNBLOCK CSU	03			C	
C6	Personal Identification Number (PIN) Try Limit	01	CSU	03			C	
	Previous Transaction History	01		00			C	
DF3F	Read Record Filter (contact)	20	GET DATA PUT DATA		C		C	
DF40	Read Record Filter (contactless)	20	GET DATA PUT DATA		SC		C	
	Reference PIN	08					C	
88	SFI of the Directory Elementary File	01	SELECT PSE				C	
	SMI Master Key (contact)	10			C		C	Test card : Key version 03 Dev cards : Key version 00
	SMI Master Key (contactless)	10					C	Test card : Key version 03 Dev cards : Key version 00
	SMI Session Key Counter (contact)	02		0000	C		C	
	SMI Session Key Counter (contactless)	02		0000	SC		C	
DF32	SMI Session Key counter limit (contact)	02		FFFF	C		C	
DF33	SMI Session Key counter limit (contactless)	02		FFFF	SC		C	
9F4A	Static authentication tag list	01	READ RECORD	82		S	S	
9F1F	Track1 Discretionary Data	Var.	READ RECORD		C		C	Available only in contact
57	Track2 Equivalent Data	39	READ RECORD GPO UPDATE RECORD			S	C	Service code = 901
DF61	Application database type	01	SELECT AID	04			S	Available only in response to contactless SELECT AID CB

4.2 ST11DrV and ST11DdV sets

SETS ST11Dr_V and ST11Dd_V - CB and VISA APPLICATIONS - PAYMENT/WITHDRAWAL - DUAL INTERFACE - VIS 1.5.4/VCPS 2.1.2									
Tag	**Name**	**Lg (hexa)**	**Access**	**Value (Hexa)**		**Contact / Contact less**	**Signed**	**Sharing**	**Feedback**
				Servant	**International**				
4F	ADF Name	07	SELECT AID	A0000000421010	A0000000031010			S	
BF5B/DF01	Application capabilities	02	GET DATA PUT DATA	40 00				C	
9F51	Currency code application	02	GET DATA	0978				C	
9F52	Application Default Action (ADA)	06	GET DATA PUT DATA	E3 38 38 00 0F 00	E3 38 38 00 0F 00			S	
5F25	Effective Application Date	03	READ RECORD UPDATE RECORD			C	S	C	valued by the customizer
5F24	Application Expiration Date	03	READ RECORD				S	C	valued by the customizer
94	Application File Locator (AFL)	Var.	GPO PUT DATA					S	valued by the customizer
82	Application Interchange Profile (AIP)	02	GPO PUT DATA	3900 (contact) 2000 (contactless)	3900 (contact) 2000 (contactless)		S	S	
50	Label App	10	SELECT READ RECORD	CB	VISA DEBIT			S	
5A	Application Primary Account Number (PAN)	~~10~~ 01	READ RECORD				S	C	Test cards : 501767 4 15 0 xxxxx l Dev cards : 507100 4 15 0 xxxxx l
5F34	Application Primary Account Number (PAN) Sequence number	10	READ RECORD	00	00		S	S	
87	Priority Indicator Application	01	SELECT READ RECORD	01	02			S	in response to SELECT PPSE/AID
9F0A	Application Selection Registered Proprietary Data	08	SELECT	0001050100000000				C	Debit Product
9F36	Application Transaction Counter (ATC)	02	GEN AC	0000				C	

	Application Transaction Counter limit	02		FFFF			C	
9F07	Application Usage Control (AUC)	02	READ RECORD UPDATE RECORD	FF00	FF00		S	S	
9F08	Application Version Number (AVN)	02	READ RECORD	0003	0096	C		S	
9F68	Card Additional Process (CAP)	04	GET DATA PUT DATA	4A200000	4A201000			S	
9F69	Card Authentication Related data	07	READ RECORD	01000000000000	01000000000000	SC		S	
9F6C	Card Transaction Qualifier CTQ)	02	GPO GET DATA PUT DATA	1000	1000	SC		S	
8C	CDOL1	1St	READ RECORD	9F0206 9F0306 9F4E14 9F1A02 9505 5F2A02 9A03 9F2103 9C01 9F3704 9F3403		C	S	C	
8D	CDOL2	1F	READ RECORD	8A02 9108 9F0206 9F0306 9F1A02 9F4E14 9505 5F2A02 9A03 9C01 9F3704 9F2103		C	S	C	
5F20	Cardholder name	04	READ RECORD	20202020		-		C	
8Th	Cardholder Verification Method (CVM) list	0TH|12	READ RECORD UPDATE RECORD	00000000 000000000 4201 0103 0203	00000000 000000000 4201 0103 0203 1E03 1F00	C	S	S	
DF62	CBLC	30	GET DATA					C	valued by the customizer
8F	Certificate Authority Public key index	01	READ RECORD					S	See RSA Keys
BF56/DF11	Consecutive Transaction Counter (CTC)	01	GET DATA PUT DATA CSU	00				C	
BF56/DF21	Consecutive Transaction Counter Limit (CTCL)	01	GET DATA PUT DATA	0A	0A			S	
BF56/DF31	Consecutive Transaction Counter Upper Limit (CTCUL)	01	GET DATA PUT DATA	FF	FF			S	

BF57/DF11	Consecutive Transaction counter International (CTCI)	01	GET DATA PUT DATA CSU		00			S	
BF57/DF21	Consecutive Transaction counter International Limit (CTCIL)	01	GET DATA PUT DATA		0A			S	
BF57/DF31	Consecutive Transaction counter International Upper Limit (CTCIUL)	01	GET DATA PUT DATA		FF			S	
	Cryptogram Version Number (CVN)	01	GEN AC	12				C	
BF58/DF11	Cumulative Total Transaction Amount	06	GEN AC PUT DATA	000000000000				C	
BF58/DF21	Cumulative Total Transaction Amount Limit	06	GET DATA PUT DATA	000000160000	000000160000			S	
BF58/DF31	Cumulative Total Transaction Amount Upper Limit	06	GET DATA PUT DATA	000000200000	000000200000			S	
	Derivation Key Index	01	GEN AC PUT DATA	00	00			S	
84	DF Name	0E	SELECT PSE	31 50 41 59 2E 53 59 53 2E 44 44 46 30 31					"1PAY.SYS. DDF01"
		0E	SELECT FSPP	32 50 41 59 2E 53 59 53 2E 44 44 46 30 31					"2PAY.SYS. DDF01"
		Var.	SELECT AID					S	
9F49	Dynamic Data Authentication DOL (DDOL)	03	READ RECORD	9F3704		C		C	
BF0C	File Control Information (FCI) Issuer Discretionary Data	Var.	SELECT AID	9F4D020B19 (contact) DF610103 (contactless)	9F4D020B19 (contact)			S	
9F6E	Form Factor Indicator (FFI)	04	PUT DATA UPDATE RECORD GET DATA GPO READ RECORD	20 00 00 00		SC		C	
	Integrated Circuit Card (ICC) for the generation of the ICC Dynamic Number (MKIDN)	10				C		C	Test card: Key version 03 Dev cards: Key version 00
	Integrated Circuit Card (ICC) Private key	Var.						C	generated by the customizer See key sheet

9F46	Integrated Circuit Card (ICC) Public Key Certificate	Var.	READ RECORD				C	calculated by the customizer
9F47	Integrated Circuit Card (ICC) Public Key Exponent	Var.	READ RECORD	3			C	generated by the customizer See key sheet
9F48	Integrated Circuit Card (ICC) Public Key Remainder	Var.	READ RECORD				C	generated by the customizer See key sheet
DF30	Interface switch	01	GET DATA PUT DATA	03			C	
9D0D	Issuer Action Code - Default	05	READ RECORD UPDATE RECORD	BC 60 24 80 00	BC 60 24 80 00	C	S	S	
9F0E	Issuer Action Code - Denial	05	READ RECORD UPDATE RECORD	00 10 D8 00 00	00 10 D8 00 00	C	S	S	
9F0F	Issuer Action Code - Online	0	READ RECORD UPDATE RECORD	BC 60 24 98 00	BC 60 24 98 00	C	S	S	
9F56	Issuer Authentication Indicator	01	GET DATA PUT DATA	80		C		C	
5F28	Issuer Country Code	02	READ RECORD	0250			S	C	
9F57	Issuer Country Code	02	GET DATA	0250				C	
90	Issuer Public Key Certificate	Var.	READ RECORD					S	provided by CB - see keysheet
9F32	Issuer Public Key Exponent	01	READ RECORD					C	provided by CB - see keysheet
92	Issuer Public Key Remainder	Var.	READ RECORD					C	provided by CB - see keysheet
9F2A	Kernel Identifier	01	SELECT FSPP	03		SC		C	
5F2D	Language Preference	08	SELECT PSE/AID	6672 656E 6465 6573				C	fr en de es
9F13	Last Online ATC Register (LATC)	02	GET DATA	0000				C	
9F4D	Log Entry	02	SELECT	0B19		C		C	

			AID					
9F4F	Log Format	1F	GET DATA	9F0206 9F2701 9F1A02 5F2A02 9A03 9C01 DF5204 9F3602 DF3E01 9F4E14 9F2103			C	
9F17	Personal Identification Number (PIN) try counter	01	GET DATA PIN CHANGE UNBLOCK CSU	03		C	C	
	Personal Identification Number (PIN) Try Limit	01	CSU	03		C	C	
9F38	Processing Options Data object list (PDOL)	18	SELECT	9F6604 9F0206 9F0306 9F1A02 9505 5F2A02 9A03 9C01 9F3704 9F4E14 9F2103	9F6604 9F0206 9F0306 9F1A02 9505 5F2A02 9A03 9C01 9F3704 9F4E14 9F2103	SC		S
	Reference PIN	08				C	C	
88	SFI of the Directory Elementary File	01	SELECT PSE			C		
9F4A	Static authentication tag list	01	READ RECORD	82			S	C
9F1F	Track1 Discretionary Data	Var.	READ RECORD					C
57	Track2 Equivalent Data	39	READ RECORD GPO UPDATE RECORD			C	S	C
DF61	Application database type	01	SELECT AID	03		SC		S
	Unique DEA Key	10						
	Unique Message Authentication Code (MAC) DEA key	10				C		
BF55/DF51	VLP available funds	06	GPO GET DATA	000000000000	000000000000			S
BF55/DF71	VLP funds limit	06	GET DATA PUT DATA	000000014000	000000014000			S
BF55/DF41	VLP Single Transaction Limit	06	GET DATA PUT DATA	000000003000	000000002000			S

Service code = 901

Test card : Key version 03 –
Dev cards : Key version 00

Test card : Key version 03 –
Dev cards : Key version 00