鼎合远传
DSPREAD

EMV TAG BOOK

V1.0.5

Document Change History

Date	Version	Author	Description
Dec 13th 2021	V1.0.0	Zizhou Xu	Basic custom tags are added by AIDs Added Extends Information for specific tags
Dec 23th 2021	V1.0.1	Zizhou Xu	Added Extends Information TAC
Dec 28th 2021	V1.0.2	Zizhou Xu	Added JCB tags
Sept 26th 2022	V1.0.3	Ziwei Wang	Added Standard tags
Nov 21st 2022	V1.0.4	Ziwei Wang	Added common standard tags' explanations
Oct 24st 2023	V1.0.5	Zhenliang Lv	Added comments for qpos mini and exception file configuration

Summary

This document introduces the tags commonly used in the EMV configuration. The document is divided according to different kinds of kernels, and lists the name, format, length, description and scope for each tag. At the end of the document, the source of the tags corresponding to each kernel is indicated, users can query the corresponding kernel specification manual for more information.

Content

1. Global Settings

(AID:00000000000000000000000000000000)

The tags configured are Global Settings, which can be directly referenced without having to definite it again.

1.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact, Contactless
5F2A	HEX	2	Transaction Currency Code	Contact, Contactless
5F36	HEX	1	Transaction Currency Exponent	Contact, Contactless
9F01	HEX	6	Acquirer Identifier	Contact, Contactless
9F15	HEX	2	Merchant Category Code	Contact, Contactless
9F16	ASC	15	Merchant Identifier	Contact, Contactless
9F1A	HEX	2	Terminal Country Code	Contact, Contactless
9F1C	ASC	8	Terminal Identification	Contact, Contactless
9F1E	ASC	8	Interface Device (IFD) Serial Number	Contact, Contactless
9F33	HEX	3	Terminal Capabilities (details in chap.12.1)	Contact, Contactless

9F35	HEX	1	Terminal Type	Contact, Contactless
9F39	HEX	1	Point-of-Service (POS) Entry Mode	Contact, Contactless
9F40	HEX	5	Additional Terminal Capabilities	Contact, Contactless
9F4E	ASC	1-20	Merchant Name and Location	Contact, Contactless
9F53	HEX	1	Mastercard Merchant Category Code	Contactless

1.2 Custom tags

Tag	Format	Length	Description	Scope
9F8117	HEX	1	Contact Boolean indicating whether use the PSE	Contact
9F8118	HEX	1	Contact reselect PSE	Contact
9F8143	HEX	1	Contact floor limit checking	Contact
9F8145	HEX	1	Contact Velocity Checking	Contact
9F8147	HEX	1	Contact Transaction force online	Contact
9F8303	HEX	1	Support AID Choosing	Contactless
9F8701	HEX	1	Fallback processing (on terminal or on app, details in chap.12.7)	Contact Contactless
DF8204	HEX	1	Support Rupay Application Block	Contactless
9F92810D	HEX	1	Rupay, Discover Contactless Transaction limit	Contactless

7F15	HEX	0-76	AMEX DRL(details in chap.12.8)	Contactless

Note: If you need to configure 9F8117, 9F8118, 9F8143, 9F8145, 9F8147, 9F8303, 9F8701,DF8204,and 9F92810D labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10> 9F811701009F92810D0100</7F10>

2. VISA

2.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact, Contactless
9F09	HEX	2	Terminal Application Version Number	Contact, Contactless
9F1B	HEX	4	Terminal Floor Limit	Contact
9F66	HEX	4	Contactless Terminal Transaction Qualifiers (details in chap.12.2)	Contactless

2.2 Custom tags

Tag	Format	Length	Description	Scope
DF01	HEX	1	Application Selection Indicator (details in chap.12.9)	Contact, Contactless
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact

9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact
9F812B	HEX	5	Terminal Action Code - Denial	Contact
9F812C	HEX	5	Terminal Action Code - Online	Contact
9F928100	HEX	2	AUTH CODE is the same as returned by the server	Contact
9F928101	HEX	1	Contactless online/Declined when the ODA failed, 0: Declined; 1: online	Contactless
9F92810A	HEX	2	Contactless Terminal Limit Check Configuration	Contactless
9F92810D	DEC	6	Contactless Transaction Limit	Contactless
9F92810E	DEC	6	Contactless CVM Transaction Limit	Contactless
9F92810F	DEC	6	Contactless Terminal Offline Floor Limit	Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129,9F928100,9F928101, F92810A,9F92810D and 9F92810E labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

3. MASTERCARD

3.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact, Contactless
9F09	HEX	2	Terminal Application Version	Contact,

			Number	Contactless
9F1B	HEX	4	Terminal Floor Limit	Contact
9F1D	HEX	8	Terminal Risk Management Parameters	Contact, Contactless
9F5C	HEX	8	DS Requested Operator ID	Contactless
9F6D	HEX	2	Contactless Mag-stripe Application Version Number (Reader)	Contactless
9F7E	HEX	1	Mobile Support Indicator	Contactless
DF21	ASC	6	Contact CVM Transaction Limit	Contact
DF60	HEX	8	Contactless DS Input (Card)	Contactless
DF62	HEX	6	Contactless DS ODS Info	Contactless
DF63	HEX	6	Contactless DS ODS Term	Contactless
DF8108	HEX	1	Contactless DS AC Type	Contactless
DF8109	HEX	8	Contactless DS Input (Term)	Contactless
DF810A	HEX	1	Contactless DS ODS Info For Reader	Contactless
DF810C	HEX	1	Contactless Kernel ID	Contactless
DF810D	HEX	1	Contactless DSVN Term	Contactless
DF8117	HEX	1	Contactless Card Data Input Capability	Contactless
DF8118	HEX	1	Contactless CVM Capability – CVM Required (details in chap.12.3)	Contactless

DF8119	HEX	1	Contactless CVM Capability – No CVM Required (details in chap.12.4)	Contactless
DF811A	HEX	3	Contactless Default UDOL	Contactless
DF811B	HEX	1	Contactless Kernel Configuration (details in chap.12.5)	Contactless
DF812C	HEX	1	Contactless Max Lifetime of Torn Transaction Log Record	Contactless
DF812D	HEX	1	Contactless Max Number of Torn Transaction Log Records	Contactless
DF811E	HEX	1	Contactless Mag-stripe CVM Capability – CVM Required	Contactless
DF811F	HEX	1	Contactless Security Capability	Contactless
DF8120	HEX	5	Contactless Terminal Action Code – Default	Contactless
DF8121	HEX	5	Contactless Terminal Action Code – Denial	Contactless
DF8122	HEX	5	Contactless Terminal Action Code – Online	Contactless
DF8123	HEX	6	Contactless Reader Contactless Floor Limit	Contactless
DF8126	HEX	6	Contactless Reader CVM Required Limit	Contactless
DF812C	HEX	1	Contactless Mag-stripe CVM Capability – No CVM Required	Contactless

Note: If you need to configure 9F5C，9F6D，9F7E，DF62，DF63，DF8108，DF8109，DF810A，DF810C，DF810D，DF8117，DF8118，DF8119，DF811A，DF811B，DF812C，DF812D，DF811E，DF811F，DF8120，DF8121，DF8122，DF8123，DF8126 and DF812C labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F5C080000000000000000019F6D020001DF812C0103</7F10>

3.2 Custom tags

Tag	Format	Length	Description	Scope
DF01	HEX	1	Application Selection Indicator	Contact, Contactless
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact
9F812B	HEX	5	Terminal Action Code - Denial	Contact
9F812C	HEX	5	Terminal Action Code - Online	Contact
7F11	HEX	12-33	Refund Decline(details in chap.12.10)	Contact, Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129, 9F812A, 9F812B and 9F812C labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

4. AMEX

4.1 Standard tags

Tag	Format	Length	Description	Scope

9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact, Contactless
9F09	HEX	2	Terminal Application Version Number	Contact, Contactless
9F1B	HEX	4	Terminal Floor Limit	Contact
9F6D	HEX	2	Contactless Mag-stripe Application Version Number (Reader)	Contactless
9F6E	HEX	4	Enhanced Contactless Reader Capabilities (details in chap.12.6)	Contactless

Note: If you need to configure 9F6D and 9F6E labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F6D 0200019F6E0400000000</7F10>

4.2 Custom tags

Tag	Format	Length	Description	Scope
DF01	HEX	1	Application Selection Indicator	Contact, Contactless
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact,

				Contactless
9F812B	HEX	5	Terminal Action Code - Denial	Contact, Contactless
9F812C	HEX	5	Terminal Action Code - Online	Contact, Contactless
9F8208	DEC	6	Contactless Transaction Limit	Contactless
9F8209	DEC	6	Contactless CVM Required Limit	Contactless
9F820A	DEC	6	Contactless Floor Limit	Contactless
9F8218	HEX	1	DRL Reader Limit Control (details in chap.12.11)	Contactless
9F8240	HEX	1	Detect CDA before GAC	Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129, 9F812A, 9F812B,9F812C,9F8208,9F8209,9F820A,9F8218 and 9F8240 labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F81250300000019F81270100</7F10>

5. DISCOVER

5.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact, Contactless
9F09	HEX	2	Terminal Application Version Number	Contact, Contactless
9F1B	HEX	4	Terminal Floor Limit	Contact

5.2 Custom tags

Tag	Format	Length	Description	Scope
DF01	HEX	1	Application Selection Indicator	Contact, Contactless
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact
9F812B	HEX	5	Terminal Action Code - Denial	Contact
9F812C	HEX	5	Terminal Action Code - Online	Contact
9F8208	DEC	6	Contactless Transaction Limit	Contactless
9F8209	DEC	6	Contactless CVM Required Limit	Contactless
9F820A	DEC	6	Contactless Floor Limit	Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129, 9F812A, 9F812B,9F812C,9F8208,9F8209 and 9F820A labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

6. PURE

6.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact
9F09	HEX	2	Terminal Application Version Number	Contact, Contactless
9F2A	HEX	1	Kernel ID	Contactless

6.2 Custom tags

Tag	Format	Length	Description	Scope
DF01	HEX	1	Application Selection Indicator	Contact, Contactless
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Contact Terminal Action Code - Default	Contact
9F812B	HEX	5	Contact Terminal Action Code - Denial	Contact
9F812C	HEX	5	Contact Terminal Action Code - Online	Contact
9F8245	HEX	5	Terminal Action Code Default	Contactless

9F8246	HEX	5	Terminal Action Code Denial	Contactless
9F8247	HEX	5	Terminal Action Code Online	Contactless
9F9309	HEX	1	Transaction Type value for Application Authentication Transactions	Contactless
9F9311	HEX	7	Additional Tag Object List(ATOL)	Contactless
9F9312	HEX	21	Mandatory Tag Object List(MTOL)	Contactless
9F9313	HEX	5	Authentication Transaction Data Tag Object List (ATDTOL) (Pure)	Contactless
9F9301	HEX	5	Contactless Application Capabilities	Contactless
9F9302	HEX	1	Contactless POS Implementation Options	Contactless
9F9314	HEX	3	Default DDOL (Pure)	Contactless
9F8208	DEC	6	Contactless Transaction Limit	Contactless
9F8209	DEC	6	Contactless CVM Required Limit	Contactless
9F820A	DEC	6	Contactless Terminal Offline Floor Limit	Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129, 9F812A, 9F812B，9F812C，9F8245,9F8246,9F8247,9F9309,9F9311,9F9312,9F9313,9F9301,9F9302,9F9314,9F8208,9F8209 and 9F820A labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

7. JCB

7.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact
9F09	HEX	2	Terminal Application Version Number	Contact, Contactless
9F1B	HEX	4	Terminal Floor Limit	Contact, Contactless

7.2 Custom tags

Tag	Format	Length	Description	Scope
DF01	HEX	1	Application Selection Indicator	Contact, Contactless
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact, Contactless
9F812B	HEX	5	Terminal Action Code - Denial	Contact, Contactless

9F812C	HEX	5	Terminal Action Code - Online	Contact, Contactless
9F8204	HEX	2	Combination Options	Contactless
9F8205	HEX	3	Terminal Interchange Profile Static	Contactless
9F8206	HEX	1	Implementation Options	Contactless
9F8207	HEX	1	IAcquirer Options	Contactless
9F8208	DEC	6	Contactless Transaction Limit	Contactless
9F8209	DEC	6	Contactless CVM Required Limit	Contactless
9F820A	DEC	6	Contactless Terminal Offline Floor Limit	Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129, 9F812A, 9F812B, 9F812C,9F8208,9F8209and 9F820AFlabels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

8. RUPAY

8.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact
9F09	HEX	2	Terminal Application Version Number	Contact, Contactless

9F1B	HEX	4	Terminal Floor Limit	Contact

8.2 Custom tags

Tag	Format	Length	Description	Scope
DF01	HEX	1	Application Selection Indicator	Contact, Contactless
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact
9F812B	HEX	5	Terminal Action Code - Denial	Contact
9F812C	HEX	5	Terminal Action Code - Online	Contact
DF8120	HEX	5	Terminal Action Code – Default	Contactless
DF8121	HEX	5	Terminal Action Code – Denial	Contactless
DF8122	HEX	5	Terminal Action Code – Online	Contactless
9F8208	DEC	6	Contactless Transaction Limit	Contactless
9F8209	DEC	6	Contactless CVM Required Limit	Contactless
DF19	HEX	4	Contactless Terminal Offline Floor	Contactless

			Limit	
9F928100	HEX	2	AUTH CODE is the same as returned by the server	Contact

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129, 9F812A, 9F812B, 9F812C, DF8120,DF8121,DF8122,9F8208,9F8209 and 9F928100 Flabels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

9. BANCOMAT

9.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact, Contactless
9F2A	HEX	1	Kernel ID	Contactless
9F09	HEX	2	Terminal Application Version Number	Contact
9F1B	HEX	4	Terminal Floor Limit	Contact
9F66	HEX	4	Contactless Terminal Transaction Qualifiers	Contactless

9.2 Custom tags

Tag	Format	Length	Description	Scope
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact
9F812B	HEX	5	Terminal Action Code - Denial	Contact

9F812C	HEX	5	Terminal Action Code - Online	Contact
9F812D	HEX	5	Contactless Terminal Action Code - Switch Interface	Contactless
9F928100	HEX	4	AUTH CODE is the same as returned by the server	Contact
9F928101	HEX	1	Contactless online/Declined when the ODA failed, 0: Declined; 1: online	Contactless
9F92810A	HEX	2	Contactless Terminal Limit Check Configuration	Contactless
9F8226	HEX	1	Contactless CVM Required Limit Check	Contactless
9F8224	HEX	1	Contactless Floor Limit Check	Contactless
9F8223	HEX	1	Contactless Transaction Limit Check	Contactless
9F8208	DEC	6	Contactless Transaction Limit	Contactless
9F8209	DEC	6	Contactless CVM Required Limit	Contactless
9F820A	DEC	6	Contactless Floor Limit	Contactless
DF8120	HEX	5	Contactless Terminal Action Code – Default	Contactless
DF8121	HEX	5	Contactless Terminal Action Code – Denial	Contactless
DF8122	HEX	5	Contactless Terminal Action Code – Online	Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129, 9F812A, 9F812B, 9F812C, 9F812D,9F928100,9F928101,9F92810A,9F8226,9F8224,9F8223,9F8208,9F8209,9F820A,DF8120,DF8121and DF8122 Flabels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

10. MIR

10.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact, Contactless
9F09	HEX	2	Terminal Application Version Number	Contact
9F1B	HEX	4	Terminal Floor Limit	Contact
DF51	HEX	6	Terminal Floor Limit	Contactless
DF52	HEX	6	Terminal No CVM Limit	Contactless
DF53	HEX	6	Terminal Contactless Limit Non CD CVM	Contactless
DF54	HEX	6	Terminal Contactless Limit CD CVM	Contactless
DF55	HEX	2	Terminal TPM Capabilities	Contactless
DF56	HEX	1	Terminal Transaction Recovery Limit	Contactless

Note: If DF51, DF52, DF53, DF54, DF55, and DF56 labels need to be configured in **Qpos Mini**, they need to be configured in the 7F10 label.

For example:<7F10>DF51060000001000000DF52060000000000</7F10>

10.2 Custom tags

Tag	Format	Length	Description	Scope

9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact, Contactless
9F812B	HEX	5	Terminal Action Code - Denial	Contact, Contactless
9F812C	HEX	5	Terminal Action Code - Online	Contact, Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128 and 9F8129 labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

11. UNIONPAY

11.1 Standard tags

Tag	Format	Length	Description	Scope
9F06	HEX	5-16	Application Identifier(AID)–terminal	Contact, Contactless
9F09	HEX	2	Terminal Application Version Number	Contact

9F1B	HEX	4	Terminal Floor Limit	Contact, Contactless
9F66	HEX	4	Contactless Terminal Transaction Qualifiers	Contactless

11.2 Custom tags

Tag	Format	Length	Description	Scope
DF01	HEX	1	Application Selection Indicator	Contact, Contactless
9F8125	HEX	3	Contact Default Dynamic Data Authentication Data Object List (DDOL)	Contact
9F8127	HEX	1	Contact Maximum Target Percentage to be Used for Biased Random Selection	Contact
9F8128	HEX	1	Contact Target Percentage to Be Used for Random Selection	Contact
9F8129	HEX	4	Contact Threshold Value for Biased random Selection	Contact
9F812A	HEX	5	Terminal Action Code - Default	Contact
9F812B	HEX	5	Terminal Action Code - Denial	Contact
9F812C	HEX	5	Terminal Action Code - Online	Contact
9F928100	HEX	2	AUTH CODE is the same as returned by the server	Contact
9F928101	HEX	1	Contactless online/ Declined when the ODA failed, 0: Declined; 1: online	Contactless

9F92810A	HEX	2	Contactless Terminal Limit Check Configuration	Contactless
9F92810D	DEC	6	Contactless Transaction Limit	Contactless
9F92810E	DEC	6	Contactless CVM Required Limit	Contactless
9F92810F	DEC	6	Contactless Terminal Offline Floor Limit	Contactless
DF30	ASC	6	Contactless CVM Transaction Limit	Contactless

Note: If you need to configure 9F8125, 9F8127, 9F8128, 9F8129, 9F812A, 9F812B, 9F812C,9F928100,9F928101, F92810A,9F92810D,9F92810E 9F92810F and DF30 labels in **Qpos Mini**, you need to configure these labels into the 7F10 label.

For example:<7F10>9F812503000000019F81270100</7F10>

12. Extends information

Standard Tags

12.1 Terminal Capabilities (Tag 9F33)

Indicates the card data input, CVM, and security capabilities of the terminal.
This section provides the coding for Terminal Capabilities:

- Byte 1: Card Data Input Capability
- Byte 2: CVM Capability
- Byte 3: Security Capability

In the tables:

- A '1' means that if that bit has the value 1, the corresponding 'Meaning' applies.
- An 'x' means that the bit does not apply.

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1	x	x	x	x	x	x	x	Manual key entry
x	1	x	x	x	x	x	x	Magnetic stripe
x	x	1	x	x	x	x	x	IC with contacts
x	x	x	0	x	x	x	x	RFU
x	x	x	x	0	x	x	x	RFU
x	x	x	x	x	0	x	x	RFU
x	x	x	x	x	x	0	x	RFU
x	x	x	x	x	x	x	0	RFU

Table 12-1-1:Terminal Capabilities Byte 1 - Card Data Input Capability

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1	x	x	x	x	x	x	x	Plaintext PIN for ICC verification
x	1	x	x	x	x	x	x	Enciphered PIN for

								online verification
x	x	1	x	x	x	x	x	Signature (paper)
x	x	x	1	x	x	x	x	Enciphered PIN for offline verification
x	x	x	x	1	x	x	x	No CVM Required
x	x	x	x	x	0	x	x	RFU
x	x	x	x	x	x	0	x	RFU
x	x	x	x	x	x	x	0	RFU

Table 12-1-2: Terminal Capabilities Byte 2 - CVM Capability

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1	x	x	x	x	x	x	x	SDA
x	1	x	x	x	x	x	x	DDA
x	x	1	x	x	x	x	x	Card capture
x	x	x	0	x	x	x	x	RFU
x	x	x	x	1	x	x	x	CDA
x	x	x	x	x	0	x	x	RFU
x	x	x	x	x	x	0	x	RFU
x	x	x	x	x	x	x	0	RFU

Table 12-1-3: Terminal Capabilities Byte 3 - Security Capability

If the terminal supports a CVM of signature, the terminal shall be an attended terminal (Terminal Type = 'x1', 'x2', or 'x3') and shall support a printer (Additional Terminal Capabilities, byte 4, ‘Print, attendant’ bit = 1).

12.2 Terminal Transaction Qualifiers (TTQ, Tag 9F66)

Terminal Transaction Qualifiers (TTQs) are online and CVM processing options that may be supported by the Terminal during Entry Point processing. Detailed definitions of TTQs are provided in Tables below.
(For VISA)

Indicates reader capabilities, requirements, and preferences to the card.
TTQ byte 2 bits 8-7 are transient values, and reset to zero at the beginning of the transaction. All other TTQ bits are static values, and not modified based on transaction conditions.
TTQ byte 3 bit 7 shall be set by the acquirer-merchant to 1b.

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1	x	x	x	x	x	x	x	Mag-stripe mode supported
x	0	x	x	x	x	x	x	RFU
x	x	1	x	x	x	x	x	EMV mode supported
x	x	x	1	x	x	x	x	EMV contact chip supported
x	x	x	x	1	x	x	x	Offline-only reader
x	x	x	x	x	1	x	x	Online PIN supported
x	x	x	x	x	x	1	x	Signature supported
x	x	x	x	x	x	x	1	Offline Data Authentication for Online Authorizations supported
								Note: The TTQ 'Mag-stripe mode supported' bit is set to 0b for products using this specification

Table 12-2-1: Terminal Transaction Qualifiers Byte 1

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1	x	x	x	x	x	x	x	Online cryptogram required Note: A qVSDC online-only reader must have TTQ byte 2 bit 8 set to 1b.

								It may be coded to 1b or set as a result of device configuration parameters.
x	1	x	x	x	x	x	x	CVM required
x	x	1	x	x	x	x	x	(Contact Chip) Offline PIN supported
x	x	x	0	x	x	x	x	RFU
x	x	x	x	0	x	x	x	RFU
x	x	x	x	x	0	x	x	RFU
x	x	x	x	x	x	0	x	RFU
x	x	x	x	x	x	x	0	RFU

Table 12-2-2: Terminal Transaction Qualifiers Byte 2

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1	x	x	x	x	x	x	x	Issuer Update Processing supported
x	1	x	x	x	x	x	x	Consumer Device CVM supported
x	x	0	x	x	x	x	x	RFU
x	x	x	0	x	x	x	x	RFU
x	x	x	x	0	x	x	x	RFU
x	x	x	x	x	0	x	x	RFU
x	x	x	x	x	x	0	x	RFU
x	x	x	x	x	x	x	0	RFU

Table 12-2-3: Terminal Transaction Qualifiers Byte 3

Byte 4 - RFU (0,0,0,0,0,0,0,0)

12.3 CVM Capability – CVM Required (Tag DF8118)

Indicates the CVM capability of the Terminal and Reader when the transaction amount is greater than the Reader CVM Required Limit.
(For MASTERCARD)

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1								Plaintext PIN for ICC verification
	1							Enciphered PIN for online verification
		1						Signature (paper)
			1					Enciphered PIN for offline verification
				1				No CVM required
					0			RFU
						0		RFU
							0	RFU

Table 12-3: CVM Capability (CVM Required)

12.4 CVM Capability – No CVM Required (Tag DF8119)

Indicates the CVM capability of the Terminal and Reader when the transaction amount is less than or equal to the Reader CVM Required Limit.
(For MASTERCARD)

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1								Plaintext PIN for ICC verification
	1							Enciphered PIN for online verification
		1						Signature (paper)

			1					Enciphered PIN for offline verification
				1				No CVM required
					0			RFU
						0		RFU
							0	RFU

Table 12-4: CVM Capability (No CVM Required)

12.5 Kernel Configuration (Tag DF811B)

Indicates the Kernel configuration options.
(For MASTERCARD)

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1								Mag-stripe mode contactless transactions not supported (Not applicable if MAG not implemented)
	1							EMV mode contactless transactions not supported (Not applicable if MAG not implemented)
		1						On device cardholder verification supported
			1					Relay resistance protocol supported
				1				Reserved for Payment system
					1			Read all records even when no CDA
						0		RFU
							0	RFU

Table 12-5: Kernel Configuration

12.6 Enhanced Contactless Reader Capabilities (Tag 9F6E)

Proprietary Data Element for managing Contactless transactions and includes Contactless terminal capabilities (static) and contactless Mobile transaction (dynamic data) around CVM.
(For AMEX)

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
x								1 = Contact mode supported (if set, Try Another Interface after a decline shall be set as well)
	x							1 = Contactless Mag-Stripe Mode supported
		0						0 = Contactless EMV full online mode not supported (full online mode is a legacy feature and is no longer supported)
			1					1 = Contactless EMV partial online mode supported
				1				1 = Contactless Mobile Supported
					x			1 = Try Another Interface after a decline
						0		RFU
							0	RFU

Table 12-6-1: Terminal Capabilities Byte 1

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
1								1 = Mobile CVM supported
	x							1 = Online PIN supported
		x						1 = Signature

			x					1 = Plaintext Offline PIN
				0				RFU
					0			RFU
						0		RFU
							0	RFU

Table 12-6-2: Terminal CVM Capabilities Byte 2

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
x								1 = Reader is offline only
	x							1 = CVM required
		x						RFU
			x					RFU
				0				RFU
					0			RFU
						0		RFU
							0	RFU

Table 12-6-3: Transaction Capabilities Byte 3

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
x								1 = Terminal exempt from No CVM checks
	x							1 = Delayed Authorisation Terminal
		x						1 = Transit Terminal

			0	0				RFU
					X	X	X	C-4 Kernel Version:
					0	0	1	2.2 – 2.3
					0	1	0	2.4 – 2.6
					0	1	1	2.7
					1	x	x	RFU – other values

Table 12-6-4: Transaction Capabilities Byte 4

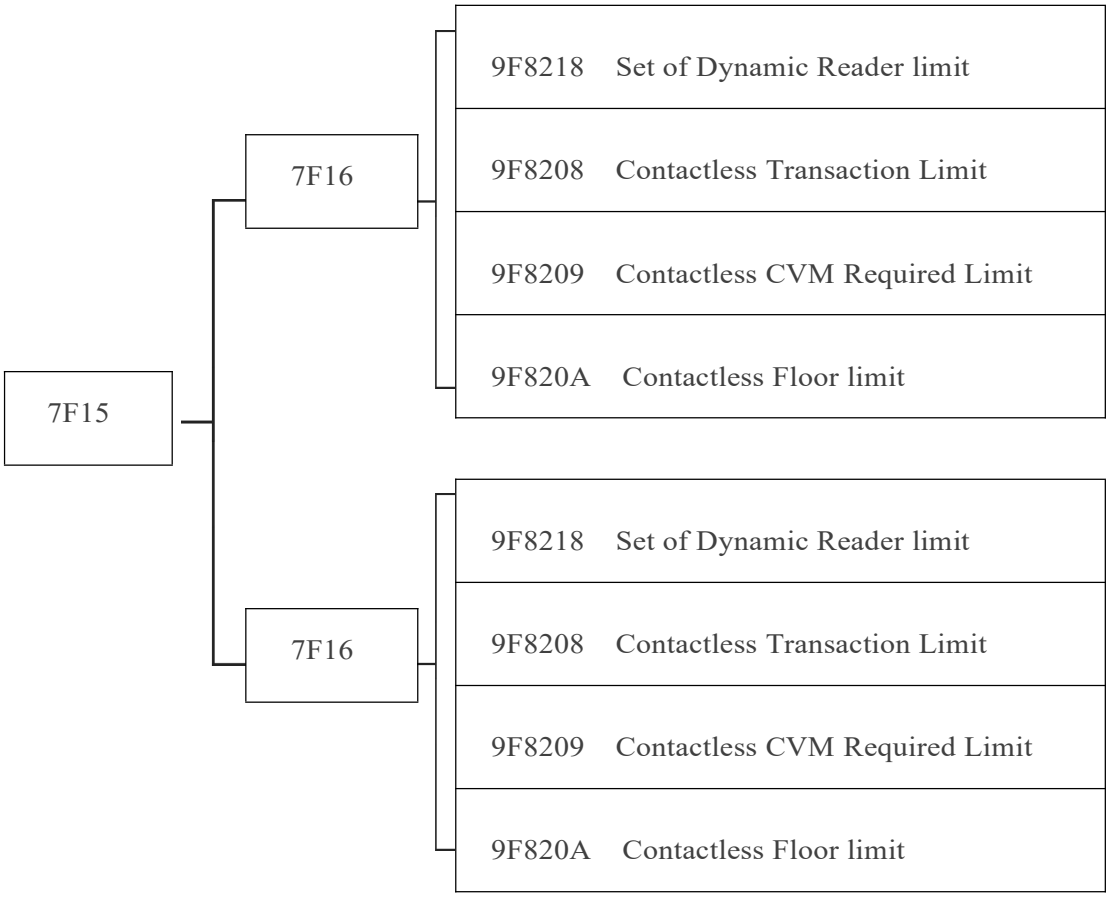
Note:
Tag 9F6E Byte 1 Bit 6 (Contactless EMV full online mode not supported) is present for backward compatibility with previous versions of C4, but does not have any associated logic in determining the operating mode of the transaction. As such, any incorrect value of this bit setting must be ignored by the reader and not impact the transaction processing.

Custom Tags

12.7 Fallback processing (Tag 9F8701)

Tag	Value	Description
9F8701	01	Display change to MSR and send fallback message to SDK
	02	Display change to MSR and restart MSR transaction on the terminal

12.8 AMEX DRL (Tag 7F15)



12.9 Application Selection Indicator (Tag DF01)

Tag	Value	Description
DF01	00	Application ID selection partially matching
	01	All matching

12.10 Refund Decline (Tag 7F11)

When the transaction type is “Refund”, the transaction can be declined by configuring the TAC Denial to “FFFFFFFFFF” (Applicable to contact and contactless).

1.Only ICC need to be configured:
(Eg:<7F11>9C01209F812B05FFFFFFFFFF</7F11>)

7F11	9C Transaction Type (Value = 20)
	9F812B Terminal Action Code – Denial (Value = FFFFFFFFFF)

2.Only NFC need to be configured:
(Eg: <7F11>9C0120DF812105FFFFFFFFFF<7F11>)

7F11	9C Transaction Type (Value = 20)
	DF8121 Terminal Action Code – Denial (Value = FFFFFFFFFF)

3.If ICC&NFC need to be configured at the same time:
(Eg:<7F11>7F171E7F180C9C01209F812B05FFFFFFFFFF7F180C9C0120DF812105FFFFFFFFFF</7F11>)

7F17	7F18	9C Transaction Type
		9F812B Terminal Action Code – Denial
	7F18	9C Transaction Type
		DF8121 Terminal Action Code – Denial

12.11 DRL Reader Limit Control (Tag 9F8218)

Tag	Value	Description
9F8218	80	Disable DRL
	40	Enable DRL

13. Exception file

```
<app>

<7F12><!--Exception file list-->
    <7F19><!--Exception file node-->
        <DF0A>354082000842110</DF0A><!--Black list PAN-->
        <DF0B>00</DF0B><!--Black list SQN-->
        <DF0C>01</DF0C><!--Black list Active-->
    </7F19>
    <7F19><!--Exception file node-->
        <DF0A>354082000842111</DF0A><!--Black list PAN-->
        <DF0B>00</DF0B><!--Black list SQN-->
        <DF0C>01</DF0C><!--Black list Active-->
    </7F19>
</7F12>


<capk>
```

14. Reference

The standard tags of all the above kernels can be queried in the kernel specification manual, and the corresponding references are shown in the following table.

Kernel	Reference
EMV	EMV book3 v4.3
VISA	EMV Book C-3 v2.9
MASTERCARD	EMV Book C-2 v2.9
AMEX	EMV Book C-4 v2.7
DISCOVER	EMV Book C-6 v2.7
PURE	PURE Contactless Reader_v2.1.8
JCB	EMV Book C-5 v2.7
RUPAY	Rupay Terminal Specification 2.0
BANCOMAT	SPE-DEF-347-220
MIR	Mir PS Contactless terminal kernel specification_v.1.5.8_02
UNIONPAY	UnionPay Integrated Circuit Card Specifications(2018)