

ISO 14906:2022-12 (E)

Electronic fee collection - Application interface definition for dedicated short-range communication

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	2
3	Terms and definitions	2
4	Abbreviated terms	4
5	EFC application interface architecture	6
5.1	Relation to the DSRC communication architecture	6
5.2	Usage of DSRC application layer by the EFC application interface	8
5.3	Addressing of EFC attributes	8
5.3.1	Basic mechanism	8
5.3.2	Role of the Element Identifier (EID)	9
5.3.3	Multiple instances of Attributes	9
5.4	Addressing of components	10
6	EFC transaction model	11
6.1	General	11
6.2	Initialisation phase	11
6.2.1	Overview	11
6.2.2	EFC application-specific contents of the BST	12
6.2.3	EFC application-specific contents of the VST	13
6.3	Transaction phase	14
7	EFC functions	15
7.1	Overview and general concepts	15
7.1.1	EFC functions and service primitives	15
7.1.2	Overview of EFC functions	16
7.1.3	Handling of multiple instances	17
7.1.4	Security	19
7.2	EFC functions	22
7.2.1	General	22
7.2.2	GET_STAMPED	22
7.2.3	SET_STAMPED	23
7.2.4	GET_SECURE	24
7.2.5	SET_SECURE	25
7.2.6	GET_INSTANCE	25
7.2.7	SET_INSTANCE	26
7.2.8	GET_NONCE	27
7.2.9	SET_NONCE	28
7.2.10	TRANSFER_CHANNEL	28
7.2.11	COPY	29
7.2.12	SET_MMI	30
7.2.13	SUBTRACT	30
7.2.14	ADD	31
7.2.15	DEBIT	32

7.2.16	CREDIT	33
7.2.17	ECHO	34
8	EFC Attributes	34
8.1	General	34
8.2	Data group contract	36
8.3	Data group receipt	39
8.4	Data group vehicle	45
8.5	Data group equipment	50
8.6	Data group driver	52
8.7	Data group payment	54
Annex A (normative) EFC data type specifications		56
Annex B (informative) CARDME transaction		57
Annex C (informative) Examples of EFC transaction types		89
Annex D (informative) Mapping table from LatinAlphabetNo2, LatinCyrillicAlphabet, LatinGreekAlphabet and LatinAlphabetNo10 to LatinAlphabetNo1		101
Annex E (informative) Mapping table between EFC Vehicledata attribute and European registration certificate		102
Annex F (normative) Security calculations for DES		105
Annex G (informative) Security computation examples for DES		111
Annex H (normative) Security calculations for AES		114
Annex I (informative) Security computation examples for AES		119
Bibliography		121