RETURN CODE LIST

Return Code List	
Return Code (Hex)	**Description**
23	Device Busy
24	Success
25	Timeout
26	Device destruct
29	MAC error
33	EMV terminated
34	EMV declined
35	Invalid command
37	EMV app configure error
38	EMV CAPK configure error
45	Select EMV APP fail
47	Fallback

Command

2 Bytes length	0x00 0x21
Command code 1 byte+ Command ID 2 byte	0x21 0x1630
[9C]transaction type	0x01: purchase 0x03: cashback 0x04: Inquiry 0x15: Refund
[9F02]Amount, authorised	0x9F 0x02 0x04: 0x00 0x00 0x00 0x00
[5F2A]Currency code [optional]	0x5F 0x2A 0x02 0x09 0x78 // refer to Appendix C
[9F1C] Terminal ID [optional]	0x9F 0x1C 0x08 0x42 0x50 0x50 0x00 0x000x000x00 0x01
[9A]Transaction Date	0x9A 0x03 0x13 0x09 0x22
[9F21]Transaction Time	0x9F 0x21 0x03 0x18 0x30 0x05
[DFAE11], 1 byte, Group separator [optional]	0x00: none as default 0x01: "," 0x02: "." 0x03: " ' "
[DFAE12], 1 byte	0x01: ","

[DF BE 01], PINSK TLV [optional]	please refer to Appendix-B for detail
[DF BE 02], PAN SK TLV [optional]	please refer to Appendix-B for detail
[optional]	

Payment parameter example

Currency name (5F2A)
Authorized amount (9F02)
Display Amount Cents (DFAE10)

(EX1)
9F02: 0x9F 0x02 0x04 0x99 0x99 0x99 0x99 0x99
5F2A: 0x5F 0x36 0x03 0x45 0x55 0x 52   // "EUR"
==> EUR9999999999.99

Response

Success (ICC) Send authorization request message for smart card (ARQC)

Command code 1 byte+	0x24
Command ID 2 bytes	0x1630
SCR authorization request ID	0x52
[50] Application Label	
[5F20] Cardholder Name	0x5F 0x20 0X0F 0x46 0x55 0x4C 0x4C 0x20 0x46 0x55 0x4E 0x43 0x54 0x49 0x4F 0x4E 0x41 0x4C
[5F24] Application Expie Date	0x5F 0x24 0x03 0x20 0x12 0x31
[5F25] Application Effect Date	0x5F 0x25 0x03 0x03 0x12 0x31
[5F28] Issuer Country Code	0x5F 0x28 0x02 0x08 0x40
[5F2A] Trans Currency Code	0x5F 0x2A 0x02 0x09 0x78
[5F30] Service Code 0201	0x5F 0x30 0x02 0x02 0x01
[5F34] PAN Sequence No	0x5F 0x34 0x01 0x01
[82] AIP	0x82 0x02 0x5C 0x00
[84] FD Name	0x84 0x07 0xA0 0x00 0x00x0 0x03 0x10 0x10
[95] TVR	0x95 0x05 0x40 0x00 0x04 0x80 0x00
[9A] Trans Date	0x9A 0x03 0x13 0x10 0x07
[9B] TSI	0x9B 0x02 0xE8 0x00
[9C] Trans Type	0x9C 0x01 0x00
[9F01] Acquire Identifier	0x9F 0x01 0x06 0x00 0x00 0x01 0x23 0x45 0x67
[9F02] Amount Author	0x9F 0x02 0x06 0x00 0x000x000x00 0x01 0x00

[9F06] Application ID	0x9F 0x06 0x07 0xA0 0x00 0x00 0x00 0x03 0x10 0x10
[9F09]ApplicationVersion Number	0x9F 0x09 0x02 0x00 0x8C
[9F10] Issuer Application Data	0x9F 0x10 0x07 0x06 0x01 0x1A 0x03 0x90 0x00 0x00
[9F11] Issuer Code Table Index	0x9F 0x11 0x01 0x01
[9F12] Application Preferred Name	
[9F15] Merchant Category Code	0x9F 0x15 0x02 0xXX 0xYY
[9F1A] Terminal country code	0x9F 0x1A 0x02 0x00 0x56
[9F1C] Terminal Identify	0x9F 0x1C 0x08 0x42 0x50 0x50 0x00 0x000x000x00 0x01
[9F1E] IFD SN	0x9F 0x1E 0x08 0xA0 0x00 0x000x000x000x000x00 0x01
[9F21] Transaction Time	0x9F 0x21 0x03 0x18 0x30 0x05
[9F26] Application Cryptogram	0x9F 0x26 0x08 0x54 0xAD 0xBE 0x95 0x22 0xB4 0x3F 0x4B
[9F27] CID	0x9F 0x27 0x01 0x80
[9F33] Terminal capability	0x9F 0x33 0x03 0xE0 0xF8 0xC8
[9F34] CVM Result	0x9F 0x34 0x03 0x02 0x00 0x00
[9F35] Terminal Type	0x9F 0x35 0x01 0x21
[9F36] Application Trans counter	0x9F 0x36 0x02 0x00 0x01
[9F39] POS Entry Mode	0x9F 0x39 0x01 0x02 = Magnetic strip card 0x05 = ICC card 0x80 = ICC card strip read (fallback)
[9F37] Unpredit number	0x9F 0x37 0x04 0xD9 0x64 0xA8 0xC5
[9F41] Transaction Sequence Counter	0x9F 0x41 0x04 0x00 0x000x00 0x02
[9F4C] ICC Dynamic Number	0x9F 0x4C 0x02 0x00 0x21 Length: var. up to 2-8
[DF28] Signature required	0xdf 0x28 0x01 0x00; 0x01: require signature ; 0x00: needn't signature
[DFAE02] P2PE Encrypted Data	0xDF 0xAE 0x02 0x20 0xF1 0xCC 0x18 0xBF 0x02 0x55 0xFB 0x35 0xB0 0xA9 0x1D 0xB0 0x18 0xED 0x14 0xE1 0xF9 0x4F 0xD5 0xF8 0xB3 0xB3 0x9E 0x78 0x1D 0x41 0x4C 0x6B 0x9D 0xE2 0x4B 0xC5

[DFAE03] P2PE KSN	0xDF 0xAE 0x03 0x0A 0xFF 0xFF 0x98 0x76 0x54 0x32 0x10 0x00 0x00 0x07
[DFAE04] DUKPT Encrypted online PIN block	0xDF 0xAE 0x04 0x08 0x58 0x3D 0xC9 0x65 0x24 0xDC 0x40 0x85
[DFAE05] Online Pin KSN	0xDF 0xAE 0x05 0x0A 0xFF 0xFF 0x98 0x76 0x54 0x32 0x10 0xE0 0x00 0x03
[DFAE57] Masked ICC Track 2 Equivalent Data	0xDF 0xAE 0x57 0x10 0x47 0x61 0x73 0xFF 0xFF 0xFF 0x00 0x10 0xD2 0x01 0x22 0x010x01 0x23 0x45 0x67 0x89
[DFAE5A] Masked PAN	0xDF 0xAE 0x5A 0x08 0x47 0x61 0x73 0xFF 0xFF 0xFF 0x00 0x10
1 byte CRC	

Decline by ICC

Resonse code 1 byte+ 2 Bytes, response length	0x34 0x1630
[5F20] Cardholder Name	0x5F 0x20 0x0F 0x46 0x55 0x4C 0x4C 0x20 0x46 0x55 0x4E 0x43 0x54 0x49 0x4F 0x4E 0x41 0x4C
[5F24] Application Expie Date	0x5F 0x24 0x03 0x20 0x12 0x31
[5F28] Issuer Country Code	0x5F 0x28 0x02 0x08 0x40
[5F2A] Trans Currency Code	0x5F 0x2A 0x02 0x09 0x78
[5F30] Service Code	0x5F 0x30 0x02 0x02 0x01
[5F34] PAN Sequence No	0x5F 0x34 0x010x01
[82] AIP	0x82 0x02 0x5C 0x00
[84] FD Name	0x84 0x07 0xA0 0x00 0x000x00 0x03 0x10 0x10
[95] TVR	0x95 0x05 0x40 0x00 0x04 0x80 0x30
[9A] Trans Date	0x9A 0x03 0x13 0x10 0x07
[9B] TSI	0x9B 0x02 0xEC 0x00
[9C] Trans Type	0x9C 0x01 0x00
[9F02] Amount Author	0x9F 0x02 0x06 0x00 0x000x000x00 0x01 0x00
[9F06] Application ID	0x9F 0x06 0x07 0xA0 0x00 0x000x00 0x03 0x10 0x10
[9F09] Application Version Number	0x9F 0x09 0x02 0x00 0x8C
[9F10] Issuer Application Data	0x9F 0x10 0x07 0x06 0x01 0x1A 0x03 0x60 0x00 0x00

[9F11] Issuer Code Table Index	0x9F 0x11 0x01 0x01
[9F1A] Terminal country code	0x9F 0x1A 0x02 0x00 0x56
[9F1C] Terminal Identify	0x9F 0x1C 0x08 0x42 0x50 0x50 0x00 0x000x000x00 0x01
[9F1E] IFD SN	0x9F 0x1E 0x08 0xA0 0x00 0x000x000x000x000x00 0x01
[9F26] Application Cryptogram	0x9F 0x26 0x08 0x88 0x2D 0x84 0x27 0xA2 0x68 0xE2 0x14
[9F27] CID	0x9F 0x27 0x01 0x40
[9F33] Terminal capability	0x9F 0x33 0x03 0xE0 0xF8 0xC8
[9F34] CVM Result	0x9F 0x34 0x03 0x02 0x00 0x00
[9F35] Terminal Type	0x9F 0x35 0x01 0x21
[9F36] Application Trans counter	0x9F 0x36 0x02 0x00 0x01
[9F37] Unpredit number	0x9F 0x37 0x04 0xD9 0x64 0xA8 0xC5
[9F41] Transaction Sequence Counter	0x9F 0x41 0x04 0x00 0x000x00 0x02
[DFAE5A] Masked PAN	0xDFxAEx5A 0x08 0x47 0x61 0x73 0xFF 0xFF 0xFF 0x00 0x10 0x76
1byte, CRC	

Success (MSR) Send authorization request message for magnetic card

Command code 1 byte+ Command ID 2 byte	0x24 0x1620
[5F24] Expire Date	0x5F 0x24 0x040x32 0x30 0x30 0x32 (Y Y M M)
[5F20] Cardholder Name	0x5F 0x20 0x0A 0x44 0x55 0x20 0x43 0x48 0x55 0x4E 0x20 0x44 0x41
[DFAE02] P2PE Encrypted Data	0xDF 0xAE 0x02 0x30 0x95 0x1E 0xAE 0xFF 0xF5 0xB1 0x25 0x99 0x98 0x4E 0xBE 0x1B 0x15 0x34 0xB0 0xDF 0xC7 0x93 0x7B 0x3C 0x0D 0x31 0x66 0x1B 0xA2 0xB0 0xBD 0xA5 0x41 0x7B 0x38 0x26 0xE5 0x06 0x61 0x7B 0x3C 0xDF 0xC9 0x81 0x05 0x4D 0x40 0x11 0xA4 0xF3 0xB9 0xCE
[DFAE03] P2PE KSN	0xDF 0xAE 0x03 0x0A 0xFF 0xFF 0x98 0x76 0x54 0x32 0x10 0x00 0x00 0x08
[DFAE5A] Masked PAN	0xDF 0xAE 0x5A 0x08 0x46 0x39 0x13 0xFF 0xFF 0xFF 0x54 0x46
[DF29] PIN required	0xDF 0x29 0x01 0x00; 0x01: requirePIN Entry ; 0x00: needn't PIN Entry
1 byte, CRC	

6B: ICC CONTINUE PAYMENT

To Use the data from gateway to response the authorization request to perform the final generate AC process.

Command

Command code 1 byte+	0x21
Command ID 2 byte	0X1640
[91]Issuer Authentication Data	0x91 0x08 0x01 0x02 0x03 0x04 0x05 0x06 0x07 0x08
[71]Issuer Script Template 1	0x71 0x18 0x9F 0x18 0x04 0x00 0x000x00 0x01 0x86 0x0F 0x8C 0x24 0x00 0x00 0x0A 0x8E 0x08 0x11 0x22 0x33 0x44 0x55 0x66 0x77 0x88
[72]Issuer Script Template 2	0x72 0x18 0x9F 0x18 0x04 0x00 0x000x00 0x02 0x86 0x0F 0x8C 0x24 0x00 0x00 0xA 0x8E 0x08 0x11 0x22 0x33 0x44 0x55 0x66 0x77 0x88
[8A]ARC	0x8A 0x02 0x30 0x30 0x30 0x30 ; Approve 0x35 0x31 ; Decline ; Others, Decline
1 byte, CRC	

Response

Success case,

Return completion message for Smart Card.

Command code 1 byte+ Command ID 2 byte	0x24 0x1640
[50] Application Label	0x50 0x0B 0x56 0x49 0x53 0x41 0x20 0x43 0x52 0x45 0x44 0x49 0x54 Length: 1-16
[5F20] Cardholder Name	0x5F 0x20 0x0F 0x46 0x55 0x4C 0x4C 0x20 0x46 0x55 0x4E 0x43 0x54 0x49 0x4F 0x4E 0x41 0x4C
[5F24] Application Expie Date	0x5F 0x24 0x03 0x20 0x12 0x31
[5F28] Issuer Country Code	0x5F 0x28 0x02 0x08 0x40
[5F2A] Trans Currency Code	0x5F 0x2A 0x02 0x09 0x78
[5F30] Service Code	0x5F 0x30 0x02 0x02 0x01
[5F34] PAN Sequence No	0x5F 0x34 0x010x01
[82] AIP	0x82 0x02 0x5C 0x00
[84] FD Name	0x84 0x07 0xA0 0x00 0x000x00 0x03 0x10 0x10
[95] TVR	0x95 0x05 0x40 0x00 0x04 0x80 0x30
[9A] Trans Date	0x9A 0x03 0x13 0x10 0x07
[9B] TSI	0x9B 0x02 0xEC 0x00
[9C] Trans Type	0x9C 0x01 0x00
[9F02] Amount Author	0x9F 0x02 0x06 0x00 0x000x000x00 0x01 0x00
[9F06] Application ID	0x9F 0x06 0x07 0xA0 0x00 0x000x00 0x03 0x10 0x10
[9F09] Application Version Number	0x9F 0x09 0x02 0x00 0x8C
[9F10] Issuer Application Data	0x9F 0x10 0x07 0x06 0x01 0x1A 0x03 0x60 0x00 0x00
[9F11] Issuer Code Table Index	0x9F 0x11 0x01 0x01
[9F1A] Terminal country code	0x9F 0x1A 0x02 0x00 0x56
[9F1C] Terminal Identify	0x9F 0x1C 0x08 0x42 0x50 0x50 0x00 0x000x000x00 0x01
[9F1E] IFD SN	0x9F 0x1E 0x08 0xA0 0x00 0x000x000x000x000x00 0x01
[9F26] Application Cryptogram	0x9F 0x26 0x08 0x88 0x2D 0x84 0x27 0xA2 0x68 0xE2 0x14

[9F27] CID	0x9F 0x27 0x01 0x40
[9F33] Terminal capability	0x9F 0x33 0x03 0xE0 0xF8 0xC8
[9F34] CVM Result	0x9F 0x34 0x03 0x02 0x00 0x00
[9F35] Terminal Type	0x9F 0x35 0x01 0x21
[9F36] Application Trans counter	0x9F 0x36 0x02 0x00 0x01
[9F37] Unpredict number	0x9F 0x37 0x04 0xD9 0x64 0xA8 0xC5
[9F41] Transaction Sequence Counter	0x9F 0x41 0x04 0x00 0x000x00 0x02
[DF28] Signature required	0xDF 0x28 0x01 0x00; Based on CVM result
[DFAE02] P2PE Encrypted Data	0xDF 0xAE 0x02 0x20 0x1E 0x5B 0xF8 0xE5 0xCA 0x39 0x32 0x5E 0x3C 0xA5 0x0B 0x68 0xA2 0xD8 0x59 0x4A 0x1C 0xA4 0x53 0x92 0x2E 0x63 0xEC 0x7D 0x0A 0xBC 0x6E 0x02 0xE8 0xB0 0x93 0x55
[DFAE03] P2PE KSN	0xDF 0xAE 0x03 0x0A 0xFF 0xFF 0x98 0x76 0x54 0x32 0x10 0xE0 0x00 0x05
[DFAE57] Masked ICC Track 2 Equivalent Data	0xDF 0xAE 0x57 0x11 0x47 0x61 0x73 0xFF 0xFF0xFF 0x00 0x10 0xD2 0x01 0x22 0x01 0x01 0x23 0x45 0x67 0x89
[DFAE5A] Masked PAN	0xDF 0xAE 0x5A 0x08 0x47 0x61 0x73 0xFF 0xFF 0xFF 0x00 0x10 0x76
1byte, CRC	
Bytes, response length	0x01 0x34
Completion id	0x43
[5F20] Cardholder Name	0x5F 0x20 0x0F 0x46 0x55 0x4C 0x4C 0x20 0x46 0x55 0x4E 0x43 0x54 0x49 0x4F 0x4E 0x41 0x4C
[5F24] Application Expie Date	0x5F 0x24 0x03 0x20 0x12 0x31
[5F28] Issuer Country Code	0x5F 0x28 0x02 0x08 0x40
[5F2A] Trans Currency Code	0x5F 0x2A 0x02 0x09 0x78
[5F30] Service Code	0x5F 0x30 0x02 0x02 0x01
[5F34] PAN Sequence No	0x5F 0x34 0x010x01
[82] AIP	0x82 0x02 0x5C 0x00
[84] FD Name	0x84 0x07 0xA0 0x00 0x000x00 0x03 0x10 0x10

Decline by ICC

[95] TVR	0x95 0x05 0x40 0x00 0x04 0x80 0x30
[9A] Trans Date	0x9A 0x03 0x13 0x10 0x07
[9B] TSI	0x9B 0x02 0xEC 0x00
[9C] Trans Type	0x9C 0x01 0x00
[9F02] Amount Author	0x9F 0x02 0x06 0x00 0x000x000x00 0x01 0x00
[9F06] Application ID	0x9F 0x06 0x07 0xA0 0x00 0x000x00 0x03 0x10 0x10
[9F09] Application Version Number	0x9F 0x09 0x02 0x00 0x8C
[9F10] Issuer Application Data	0x9F 0x10 0x07 0x06 0x01 0x1A 0x03 0x60 0x00 0x00
[9F11] Issuer Code Table Index	0x9F 0x11 0x01 0x01
[9F1A] Terminal country code	0x9F 0x1A 0x02 0x00 0x56
[9F1C] Terminal Identify	0x9F 0x1C 0x08 0x42 0x50 0x50 0x00 0x000x000x00 0x01
[9F1E] IFD SN	0x9F 0x1E 0x08 0xA0 0x00 0x000x000x000x000x00 0x01
[9F26] Application Cryptogram	0x9F 0x26 0x08 0x88 0x2D 0x84 0x27 0xA2 0x68 0xE2 0x14
[9F27] CID	0x9F 0x27 0x01 0x40
[9F33] Terminal capability	0x9F 0x33 0x03 0xE0 0xF8 0xC8
[9F34] CVM Result	0x9F 0x34 0x03 0x02 0x00 0x00
[9F35] Terminal Type	0x9F 0x35 0x01 0x21
[9F36] Application Trans counter	0x9F 0x36 0x02 0x00 0x01
[9F37] Unpredit number	0x9F 0x37 0x04 0xD9 0x64 0xA8 0xC5
[9F41] Transaction Sequence Counter	0x9F 0x41 0x04 0x00 0x000x00 0x02
[DF28] Signature required	0xDF 0x28 0x01 0x00; Based on CVM result
[DFAE02] P2PE Encrypted Data	0xDF 0xAE 0x02 0x20 0xE1 0xAD 0x7E 0xBB 0x4D 0x7B 0xBD 0xF5 0x8F 0x83 0x97 0xAF 0x5D 0xDF 0x4A 0x4E 0x6D 0x18 0x63 0x61 0x6F 0x78 0xC7 0x01 0xF3 0xF7 0x2B 0xDD 0x66 0xC1 0xEB 0xC7
[DFAE03] P2PE KSN	0xDF 0xAE 0x03 0x0A 0xFF 0xFF 0x98 0x76 0x54 0x32 0x10 0xE0 0x00 0x05

[DFAE57] Masked ICC Track 2 Equivalent Data	0xDF 0xAE 0x57 0x11 0x47 0x61 0x73 0xFF 0xFF 0xFF 0x00 0x10 0xD2 0x01 0x22 0x01 0x01 0x23 0x45 0x67 0x89
[DFAE5A] Masked PAN	0xDF 0xAE 0x5A 0x08
	0x47 0x61 0x73 0xFF0Xff0xFF 0x00 0x10 0x76
1byte, CRC	