**Card Action Analysis**

When the card gets the Generate AC command it will perform an own risk management and make a final decision whether the transaction process shall be complete offline, online or be rejected.

The decision will be send to the terminal in the response message of the Generate AC command.

**Data Formats**

There are two different formats for the data field returned in the response message.

**Format 1, Tag '80'**

The data object is a primitive data object. The value field consists of a concatenation of data objects without tag and length bytes.  
The data objects are:

 Cryptogram Information Data (CID)

 Application Transaction Counter (ATC)

 Application Cryptogram (AC)

 Issuer Application Data (IAD) (optional data object)

**Format 2, Tag '77'**

The data object is a constructed data object. The value field contains TLV coded data objects. Mandatory data objects are:

 Tag: '9F27' - Cryptogram Information Data (CID)

 Tag: '9F36' - Application Transaction Counter (ATC)

 Tag: '9F26' - Application Cryptogram (AC)

**Coding of Cryptogram Information Data**

The CID reveal what kind of Application Cryptogramm is returned. It can optionally contain an advice message if the transaction will rejected.

Source: [EMV Book 3](http://www.emvco.com/specifications.aspx?id=155)

| **b8** | **b7** | **b6** | **b5** | **b4** | **b3** | **b2** | **b1** | **Meaning** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 |  |  |  |  |  |  | AAC |
| 0 | 1 |  |  |  |  |  |  | TC |
| 1 | 0 |  |  |  |  |  |  | ARQC |
| 1 | 1 |  |  |  |  |  |  | AAR |
|  |  | x | x |  |  |  |  | Payment System-specific cryptogram |
|  |  |  |  | 0 |  |  |  | No advice required |
|  |  |  |  | 1 |  |  |  | Advice required |
|  |  |  |  |  | x | x | x | Reason/advice/referral code |
|  |  |  |  |  | 0 | 0 | 0 | No information given |
|  |  |  |  |  | 0 | 0 | 1 | Service not allowed |
|  |  |  |  |  | 0 | 1 | 0 | PIN Try Limit exceeded |
|  |  |  |  |  | 0 | 1 | 1 | Issuer authentication failed |
|  |  |  |  |  | 1 | x | x | Other values RFU |

**Example**

R: SW1/SW2=9000 (Normal processing: No error) Lr=32

0000 77 1E 9F 27 01 80 9F 36 02 02 13 9F 26 08 2D F3 w..'...6....&.-.

0010 83 3C 61 85 5B EA 9F 10 07 06 84 23 00 31 02 08 .<a.[......#.1..

This is a format 2 response message to the Generate AC command.  
It contains an ARQC which means that the transaction should be proceed online.

**Completion**

**Offline Transaction**

If the card answers on a [Generate AC](https://www.openscdp.org/scripts/tutorial/emv/Terminal%20Action%20Analysis.html#GenerateAC) command with a TC, the transaction will be completed offline.

**Online Transaction**

During the online processing the issuer can review and authorise or reject transactions.

The transaction will be completed with a second [Generate AC](https://www.openscdp.org/scripts/tutorial/emv/Terminal%20Action%20Analysis.html#GenerateAC) command, sending either a TC or an AAC.