**Terminal Risk Management**

Terminal Risk Management shall protect the Issuer and the acquirer from fraud.  
Therefor the terminal

 checks the floor limit

 select a random transaction for online processing

 checks the Velocity

**Floor Limit**

The terminal can save the Application PAN, the transaction amount, the Application PAN Sequence Number and the Transaction Date to prevent split sales. During the transaction the terminal can check the log for entries, sum up the most recent amounts and check if the floor limit is exceeding.  
If the sum/current amount is greater than or equal to the Terminal Floor Limit, the "Transaction exceeds floor limit" bit in the [TVR](https://www.openscdp.org/scripts/tutorial/emv/Terminal%20Action%20Analysis.html#TVR) shall set to 1.

**Random Transaction Selection**

The Terminal will select accidently a transaction for online processing. It has a Threshold Value, depending on the amount is higher or lower than the Threshold Value there are different percentages of selection. If the transaciton shall completed online, the corresponding bit in the [TVR](https://www.openscdp.org/scripts/tutorial/emv/Terminal%20Action%20Analysis.html#TVR) shall set to 1.

**Velocity Checking**

After a certain number of offline transactions the next transaction shall be proceed online.

The soft cap of offline transactions is written in the The Lower Consecutive Offline Limit. After that the next transaction shall be approved online if the terminal has an online ability, if not the transaction will be completed offline.  
The Upper Consecutive Offline Limit is the hard cap after that no more offline transactions can be executed.

To check for velocity the terminal needs:

 Lower Consecutive Offline Limit (Tag: 9F14)

 Upper Consecutive Offline Limit (Tag: 9F23)

 Application Transaction Counter (ATC)

 Last Online ATC Register

If there are no Lower/Upper Consecutive Offline Limit data objetcts on the card, the terminal shall skip velocity checking. To get the ATC and Last Online ATC Register we send a Get Data command to the card.

**Get Data Command**

|  |  |
| --- | --- |
| **Code** | **Value** |
| CLA | '80' |
| INS | 'CA' |
| P1 P2 | for ATC '9F36', for Last Online ATC Register '9F13' |
| Le | '00' |

The Last Online ATC Register has the ATC value of the last transaction went online. To check whether the limit is exceeded, the terminal takes the difference between the ATC and the Last Online ATC Register. Then compare the result with the Lower/Upper Consecutive Offline Limit.  
If there is an online decision the corresponding [TVR](https://www.openscdp.org/scripts/tutorial/emv/Terminal%20Action%20Analysis.html#TVR) bit shall set to 1.