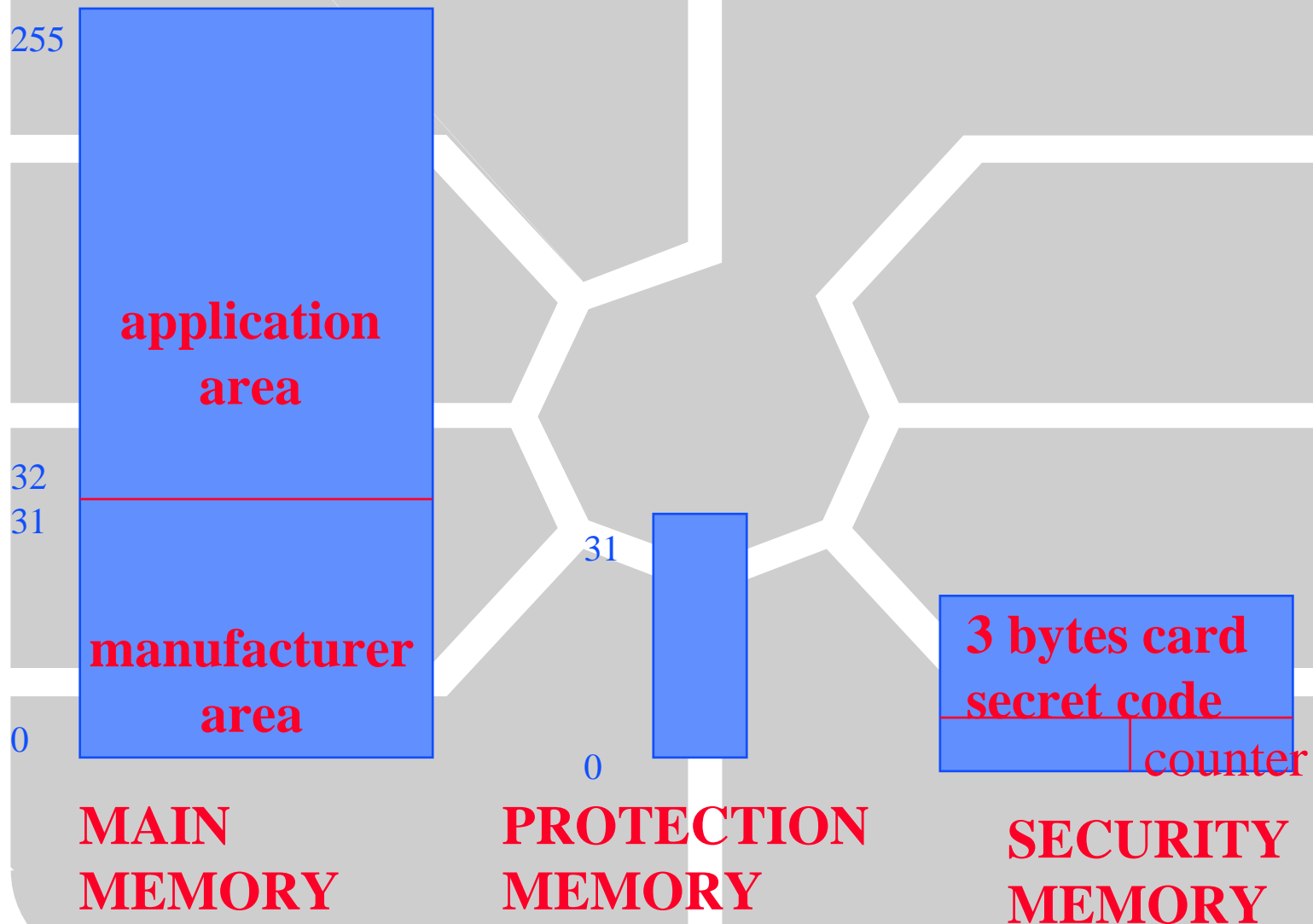# SLE-4442 Memory Card

◆ **main features**

☞ **256 x 8 bits application EEPROM**

☞ **3 bytes card secret code, 3 bits error counter**

☞ **32 bits memory protection control**

☞ **5 volts (10 mA)**

☞ **6 contacts**

☞ **erase (virgin) state is 1**

Memory Structure

255

application area

32
31

manufacturer area

0

MAIN MEMORY

31

0

PROTECTION MEMORY

3 bytes card secret code

counter

SECURITY MEMORY

Main Memory

255

application area

32
31

manufacturer area

0

MAIN MEMORY

◆ **chip manufacturer reference**

◆ **chip type and version**

◆ **card manufacturer reference**

◆ **card serial number**

◆ **manufacturer area is byte-wise write/erase lockable by the Protection Memory**

◆ **application area can be written / erase after presentation of CSC**

◆ **the entire main memory is free read**

Protection Memory

◆ **32 x 1 EPROM bits used to protect the 32 bytes manufacturer area**

◆ **protection memory is free read**

◆ **setting a bit write / erase lock the corresponding byte in the manufacturer area**

◆ **protection bit can only be set by sending the address and the data to be protected**

◆ **a matched content sets the protection bit**

31

0

PROTECTION MEMORY

Security Memory

- ◆ **4 bytes EEPROM comprising 3 bytes CSC and 3 bits error counter**

- ◆ **error counter is free read**

- ◆ **CSC cannot be read (000000) before correct presentation**

- ◆ **a wrong CSC presentation will result in a bit in the counter set to 0**

- ◆ **correct CSC presentation required to update the CSC**

3 bytes card secret code

counter

SECURITY MEMORY

SLE4442 Reader Emulation Commands

◆ **memory card does not comply with ISO-7816 part 3 and therefore does not have ISO commands**

◆ **however to easy application development and upgrade, it is wise for the reader to perform an emulation to make the card looks like a CPU card**

Card Primitive Signalling

◆ **Reset**

◆ **Command Mode (7 commands)**

☞ **read ; update main memory**

☞ **read ; write protection memory**

☞ **read ; update security memory**

☞ **compare verification data**

◆ **Outgoing Data Mode**

◆ **Processing Mode**