

# MorphoAccess® SIGMA Family

Application note - Morpho Legacy Mode limitations



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## Introduction

This document describes limitations of the MorphoAccess® Sigma family terminals, configured in Morpho Legacy mode as compared to MorphoAccess® 2G Series (ref 0000056821-14 MorphoAccess Host System Interface Specification).

## Generality

MorphoAccess® Sigma and Sigma Extreme features and capabilities not supported by MorphoAccess® 500 Series are not available in Morpho Legacy mode.

MorphoAccess® Sigma Lite and Sigma Lite+ features and capabilities not supported by MorphoAccess® J Series are not available in Morpho Legacy mode.

## Terminal configuration

### Parameters

Following is a list of the MorphoAccess® 2G terminals parameters along with their corresponding limitations.

The following keys are not supported but compatibility is ensured:

- /adm/remote management SSL/command read timeout
- /adm/remote management SSL/command write timeout
- adm/remote management SSL/peer authentication enabled
- adm/remote management SSL/session cache enabled
- adm/remote management TCP/inactivity timeout
- adm/remote management TCP/latency timeout
- adm/remote management TCP/small MTU compatible
- adm/watchdog ethernet/enabled
- adm/watchdog ethernet/host address
- adm/watchdog ethernet/ping interval
- adm/watchdog ethernet/ping timeout
- adm/watchdog ethernet/reboot delay
- app/failure ID/generic error ID
- app/failure ID/send ID mask
- app/G.U.I/database conversion
- app/G.U.I/default language
- app/G.U.I/display user format
- app/G.U.I/led out signal
- app/G.U.I/time attendance icons
- app/log file/capacity (always 65K logs)
- app/log file/full handling
- app/send ID ethernet/ID sent
- app/send ID ethernet/timeout back to controller 1
- app/send ID UDP/enabled (use send ID Ethernet instead)
- app/send ID UDP/host name
- app/send ID UDP/host port
- app/send ID wiegand/built frame
- app/send ID wiegand/HID conversion
- /app/send ID serial/display duration
- bio/bio ctrl/1st try strategy
- bio/bio ctrl/2nd try strategy
- bio/bio ctrl/finger type
- bio/bio ctrl/image contrast
- bio/bio ctrl/image size
- bio/bio ctrl/presence detection

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- bio/bio ctrl/sensor sensibility
- bio/bio ctrl/uniformity correction
- /bio/bio ctrl/FFD security level
- enr/contactless/B
- enr/contactless/usekey
- enr/parameters/BIOPIN code size
- enr/parameters/encoding timeout
- enr/parameters/ID from card
- enr/parameters/PIN code size
- enr/parameters/storage mode
- events/bio\_chg/nb sending
- events/general/active
- events/log\_full/nb sending
- fac/terminal/TX\_MMI
- fac/terminal/TX\_NBFLASH
- fac/terminal/TX\_VARIANT
- log/LogParam/LogFile
- log/LogParam/LogFileSize
- log/LogParam/LogMask
- log/Synchro/SynchroKey
- net/device/speed
- remotemsg/interfaces/nb interfaces
- sslprofile/profile0/ca peer certificates
- sslprofile/profile0/connection timeout
- sslprofile/profile0/list name
- sslprofile/profile0/list type
- sslprofile/profile0/own certificate
- sslprofile/profile0/read timeout
- sslprofile/profile0/retry connection timeout
- sslprofile/profile0/strength level
- sslprofile/profile0/write timeout
- sslprofile/profile1/ca peer certificates
- sslprofile/profile1/connection timeout
- sslprofile/profile1/list name
- sslprofile/profile1/list type
- sslprofile/profile1/own certificate
- sslprofile/profile1/read timeout
- sslprofile/profile1/retry connection timeout
- sslprofile/profile1/strength level
- sslprofile/profile1/write timeout

The following keys are partially supported:

- /adm/distant session/inactivity timeout: only available for MorphoAccess® Sigma Extreme and for MorphoAccess® Sigma since firmware 1.5.0.
- app/bio ctrl/AC\_ID: Partially supported, only CARDDATA and CARDSN are supported
- /app/modes/idle peripherals: Not supported on MorphoAccess® Sigma Lite and Lite+ terminals

The following keys have been added:

- /fac/terminal/enable\_error\_log
- /fac/terminal/error\_log\_debug\_level

## Hardware compatibility

Because of hardware changes, LED, Buzzer and screen display could not be customized on SIGMA Family in Morpho Legacy mode.

## Language customization

MorphoAccess® 500 language file could not be loaded in a MorphoAccess® Sigma and Sigma Extreme series terminals. Customization of the language should be done in MA5G mode.

Only one language could be customized on MorphoAccess® Sigma and Sigma Extreme series terminals, it could be same language as the existing ones. There is no way to modify preloaded existing languages.

As there is no language selection option on MorphoAccess® Sigma Lite and Sigma Lite+ terminals. This feature is not available on these terminals.

## Licenses limitation

In SIGMA Family terminals, some Morpho Legacy configuration keys need a license to be modified.

The following keys require the license MA\_PAC:

- /app/send ID dataclock/card present signal
- /app/send ID dataclock/clock inverted
- /app/send ID dataclock/data inverted
- /app\_keys/relay/enabled
- /app\_keys/send ID ethernet/controller 1 IP
- /app\_keys/send ID ethernet/controller 1 port
- /app\_keys/send ID ethernet/connect timeout
- /app\_keys/send ID ethernet/controller 2 IP
- /app\_keys/send ID ethernet/controller 2 port
- /app\_keys/send ID ethernet/controller on no response
- /app/failure ID/enabled
- /app/send ID wiegand/enabled
- /app/send ID dataclock/enabled

The following keys require the license MA\_TA:

- /app\_keys/modes/T&A operation timeout
- /app\_keys/modes/time and attendance

## Functionalities limitation

### Serial link

Sending commands to terminal using serial link is not available in Morpho Legacy mode.

### Database

MorphoAccess® Sigma family terminals does not support multiple databases. MorphoAccess® Sigma and MorphoAccess® Sigma Extreme series in Morpho Legacy mode supports only one database of maximum 10K without license or 50K users with associated license, without additional field, or with one or more of the following additional fields, that is ADMIN, TMASK, NAME, and FNAME.

MorphoAccess® Sigma Lite and Sigma Lite+ terminals in Morpho Legacy mode are supporting only one base of maximum 500 users without license or until 10K users with appropriate license, without additional field, or with one additional field: TMASK

Those limitations apply to all database management functions or ones using database records.

### USB script

The USB scripts generated for MA2G are not compatible with SIGMA Family. MorphoBioToolBox should be used to generate USB for them.

### Wi-Fi

MorphoBioToolBox should be used to configure Wi-Fi connection on SIGMA Family, or administration local menu on MorphoAccess® Sigma and Sigma Extreme series terminals.

### Card Mode feature

When the Card Mode parameter is enabled, SIGMA Family terminals expect to read, in the contactless card, a Card Mode tag. If this tag is not read in the contactless card, the ongoing action is rejected.

In order to provide full compatibility with MA 500 or J Series legacy mode, we introduce a new parameter: Card Mode Legacy. When the Card Mode Legacy parameter is enabled, terminals accept to proceed with the ongoing action even if the contactless card doesn't feature a Card Mode tag.

Card Mode Legacy should not be enabled without activated card mode parameter else this could generate erratic behavior.

## **MEMS and MATM**

Due to timing difference with MorphoAccess® 2G Series, to use MEMS with MorphoAccess® Sigma and Sigma Extreme series terminals, Active\_MACI.dll should be updated with the 4.1.7.21 version.

The diagnostic function from MATM is not available for SIGMA Family terminals.

MATM could not be used to upgrade the firmware of the SIGMA Family terminals.

MATM Wi-Fi™ plug-in could not be used to configure SIGMA Family terminals.

MATM SSL plug-in could not be used to configure SIGMA Family terminals in SSL or to load certificates.

To configure and upgrade SIGMA Family terminals, MorphoBioToolBox should be used.

Remote Enrolment is not available on SIGMA Family terminals.

## MIK

The following members of IMATerminal interface are not supported or partially only.

### AddLogFile

This command is not supported

*MorphoAccess® 2G Series: Add a buffer to an existing log in the MA.*

### AddRecord

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Insert a record in the specified MA database.*

### AddSeveralLogsInFile

This command is not supported

*MorphoAccess® 2G Series: Add several lines to an existing log in the MA.*

### AddSeveralRecords

This command is partially supported, Refer to the [Database section](#) above.

Only the nominal case is managed, by consequence, when loading several users with 1 user containing invalid data, terminal doesn't return information about which user causes the error, but a generic error code.

*MorphoAccess® 2G Series: Append several records contained in a MADB database in an existing MorphoAccess® database (send 0x72 command).*

### Authenticate

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Authenticate a person on the MorphoAccess®.*

### cmdDir

This command is not supported

*MorphoAccess® 2G Series: List the files contained in the disk /SYSTEM/ (only this for the moment) of the MorphoAccess®.*

### CreateDB

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Create a database on MA.*

### CreateLogFile

This command is not supported

*MorphoAccess® 2G Series: Create a log file in the MA.*

### DeleteLogFiles

This command is not supported

*MorphoAccess® 2G Series: Delete log files from the MA.*

## DelSeveralRecords

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Delete several records from the MA.*

## DisplayScreen

This command is not supported

*MorphoAccess® 2G Series: This function allows displaying text on the MA (send 0x54 command).*

## DownloadDB

This command is not supported for MorphoAccess® Sigma and Sigma Extreme series terminals, but is supported for Sigma Lite and Sigma Lite+ terminals.

*MorphoAccess® 2G Series: Send to the MorphoAccess® the image of its database for a full download.*

## Enroll

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Enroll a person remotely on the MorphoAccess®. The number of fingers can be specified.*

## EnrolAndExport

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Enroll a person remotely on the MorphoAccess®. The number of fingers can be specified.*

## EraseDB

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Remove all the records in the specified database. The database structure still exists in the MA.*

## EraseLanguageFile

This command is not supported

*MorphoAccess® 2G Series: Erase a Language (send 0x96 command).*

## executeRequestFile

This command is not supported

*MorphoAccess® 2G Series: Execute sequentially the ILV commands contained in a .REQ file (or .REC file).*

## FindUser

This command is not supported

*MorphoAccess® 2G Series: Search the first record which has a field equal to a given field (same length, same content). Search is processed only on public fields.*

## GetBaseRecord

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Get the enrolment data associated to the specified person.*



## GetCryptoObject

This command is not supported

*MorphoAccess® 2G Series: This method retrieves cryptographic object in the terminal's secured key storage component.*

## GetData

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Read a database public field.*

## GetLogsInFile

This command is not supported

*MorphoAccess® 2G Series: Get Logs from the MA.*

## GetNumberOfLogsInFile

This command is not supported

*MorphoAccess® 2G Series: Get the number of the occurrence of a buffer in the specified log file.*

## GetPublicFields

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Read a given public field from all users.*

## GetSeveralRecords

This command is not supported.

*MorphoAccess® 2G Series: Get the enrolment data associated to the specified persons.*

## Identify

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Identify a live finger against the local database in the MorphoAccess®.*

## initSSL

This command is not supported

*MorphoAccess® 2G Series: Set the 3DES key to decipher the SSL parameters file. The 3DES key is managed by the application.*

## LoadLanguageFile

This command is not supported

*MorphoAccess® 2G Series: Load Language File (send 0x95 command).*

## ReadFromKeyboard

This command is not supported

*MorphoAccess® 2G Series: This function performs a keyboard read. A new screen is pushed.*

## ReadInput

This command is not supported

*MorphoAccess® 2G Series: This function performs a keyboard read. A new screen is pushed.*

## RemoveRecord

This command is partially supported, Refer to the [Database section](#) above

*MorphoAccess® 2G Series: Remove a record from the specified MA database.*

## ResetAllPasswords

This command is not supported

*MorphoAccess® 2G Series: This method resets all secured PASSWORDS objects in the MorphoAccess® terminal and thus the access keys to their default value.*

## RetrieveVersion

This command is supported but for some fields answer is different from *MorphoAccess® 2G Series*: see below the ILV CMD\_GET\_VERSION

*MorphoAccess® 2G Series: Get MorphoAccess® version (send 0x03 command). Retrieve serial number, type, software version and flash size.*

## RetrieveVersionEtendue

This command is supported but for some fields answer is different from *MorphoAccess® 2G Series*: see below the ILV CMD\_GET\_VERSION

*MorphoAccess® 2G Series Retrieve Terminal Identifier, Biometric sensor Identifier, Contactless features, Man machine Interface and Application information (send 0x03 command).*

## SendCustomCommand

This command is not supported

*MorphoAccess® 2G Series: Send a customized command to the terminal in an ILV string format.*

## SetCryptoObject

This command is partially supported. Refer to [ILV commands limitations](#) chapter below

*MorphoAccess® 2G Series: This command will manage the cryptographic objects in the terminal's secured key storage component.*

## SetMIFAREKey

This command is not supported

*MorphoAccess® 2G Series: Function kept for compatibility with older versions. Use SetContactlessKey instead (the behavior is the same).*

## SetSeveralCryptoObject

This command is partially supported. Refer to [ILV commands limitations](#) chapter below

*MorphoAccess® 2G Series: This command will manage the cryptographic objects in the terminal's secured key storage component.*

## SetTerminalKey

This command is not supported

*MorphoAccess® 2G Series: This command allows changing the key reserved to encrypt USB files.*

## UpdateMASoftware

This command is not supported

*MorphoAccess® 2G Series: Send to the MA its firmware update.*

The following commands already deprecated on MA5xx are no more supported:

- EraseAllKeys
- EraseKey
- GarbageCollector
- GetLicenseStatus
- ChangePwd
- CipherBuffer
- PrintScreen
- RetrieveAllDBReports
- RetrieveKeyVersion
- SendExtendedCommand
- SignBuffer
- SpecialRequest
- SpecialRequestCom
- SynchroAcknowledge
- UpdatePublicData
- GetPublicField

## ILV commands limitations

On SIGMA Family terminals in Morpho Legacy mode, if the ILV are sent too fast, then terminal is not able to manage the ILV. To avoid this issue, introduce a delay of 1s between ILV.

Some commands are not or partially supported or have a different behavior from *MorphoAccess® 2G Series*. Following is the list of such limitations.

### CMD\_SET\_REGISTRY\_KEY

This command is fully supported but due to terminal difference, in some cases, behavior could be different from *MorphoAccess® 2G Series*. Example, set configuration key for non-existent hardware, will failed.

### CMD\_GET\_VERSION

This command is partially supported

### CMD\_GET\_VERSION (new prototype)

This command is supported but for some fields answer is different from *MorphoAccess® 2G Series*

Section ID\_TERMINAL\_IDENTIFIER

Plate-form Type: 0x00: PLATFORM\_UNKNOWN

Section ID\_BIO\_SENSOR\_IDENTIFIER

ID\_DESC\_PRODUCT 293625995

ID\_DESC\_SENSOR 00

ID\_DESC\_SOFTWARE 00

ID\_FORMAT\_BIN\_VERSION 00000000000000

Section ID\_MMI\_IDENTIFIER

Keyboard Type: 0x00: NONE

Screen Type: 0x00: NONE

Buzzer Type: 0x00: NONE

Section ID\_BIO\_APPLICATION\_INFORMATION

ID\_APP\_VERSION 0001

Section ID\_BIO\_TERMINAL\_DESCRIPTION

TX\_NAME=MA SIGMA Prox WR (example)

### CMD\_CREATE\_DB

This command is partially supported, see database section above

### CMD\_GET\_ALL\_DB\_CONFIG

This command is partially supported

Retrieve one base, see database section above

### **CMD\_DATA\_SEND**

This command is partially supported, Wiegand Raw Data and Dataclock Raw Data not supported.

*MorphoAccess® 2G Series: Wiegand Raw Data, Dataclock Raw Data are data to send on the associated outputs [Morpho only, not support is given on this function].*

### **CMD\_SET\_KMA**

This command is not supported

*MorphoAccess® 2G Series: This command allows changing the key reserved to encrypt USB files (Kma).*

### **CMD\_UPGRADE\_SOFTWARE**

This command is not supported

### **ILV\_SWITCH**

This command is not supported

*MorphoAccess® 2G Series: [Morpho Only, no support is given on this function]*

*This function allows execution of a sub-ILV according to a test specified in the ILV.*

### **CMD\_SEND\_CBM**

This command is not supported

*MorphoAccess® 2G Series: [Morpho Only, no support is given on this function]*

*This function allows sending commands directly to the sensor.*

### **CMD\_ADD\_DB\_RECORD**

This command is partially supported, see database section above

When loading several users with 1 user containing invalid data, terminal doesn't return information about which user causes the error, but a generic error code.

*MorphoAccess® 2G Series: This function adds a record to the local database.*

### **CMD\_FIND\_USER\_BASE**

This command is not supported

*MorphoAccess® 2G Series: This function searches the first record that has a field equal to a given field (same length, same content). Search is processed only on public fields.*

### **ILV\_CHECK\_USERS**

This command is partially supported. Because the signature (checksum) is not available in SIGMA Family terminals, value is fixed to 0 for all templates.

*MorphoAccess® 2G Series: This command requires the UserID list of all user records in the database, and for each one of them a signature (checksum) that reflects the content of user's templates and additional User Data fields. Comparing this signature with a previously saved one makes it possible to know if a record has been modified locally or has to be updated by the central system.*

### **CMD\_CONTACTLESS\_READ**

This command is not supported

*MorphoAccess® 2G Series: deprecated*

*This function is an interface to perform read operations on MIFARE® Classic™ cards.*

### **CMD\_CONTACTLESS\_VERIFY**

This command is not supported

*MorphoAccess® 2G Series: This function reads templates on a MIFARE® card then captures a finger and checks if it matches.*

### **CMD\_LOG\_TREATMENT**

This command is not supported

*MorphoAccess® 2G Series: This command allows the distant host to perform several operations on the terminal's log files.*

### **ID\_DOWNLOAD\_DB**

This command is not supported in MorphoAccess® Sigma terminals, but is supported in Sigma Lite and Sigma Lite+ terminals.

*MorphoAccess® 2G Series: This command allows downloading a local database. The complete database is sent in one transaction (one ILV request).*

### **CMD\_SET\_MMI\_DIS**

This command is not supported

*MorphoAccess® 2G Series: Use this command to change the user interface state*

### **CMD\_MANAGE\_CRYPTO\_OBJECT**

This command is partially supported.

Only the contactless keys can be updated.

*MorphoAccess® 2G Series: This command manages the cryptographic objects in the terminal's secured key storage component.*

### **CMD\_INTL\_READ\_LANG**

This command is not supported

*MorphoAccess® 2G Series: This function reads the file language in the terminal and returns it.*

### **CMD\_INTL\_ADD\_LANG**

This command is not supported

*MorphoAccess® 2G Series: This function allows downloading a personalized message table in the terminal.*

### **CMD\_INTL\_REMOVE\_LANG**

This command is not supported

*MorphoAccess® 2G Series: This function erases a personalized message file in the terminal.*

### **CMD\_INTL\_GET\_LANG\_NAME**

This command is not supported

*MorphoAccess® 2G Series: This function reads the selected file language in the terminal and returns the language name.*

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