

sysmoSIMBANK data sheet

sysmocom

systems for mobile communications GmbH



Introducing sysmoSIMBANK

The sysmoSIMBANK family is a product family of multi-slot, network attached smart card readers.

Currently the following densities and form-factors are available:

- 96 slots in 2U 19" rack mount form-factor
- 192 slots in 4U 19" rack mount form-factor

The edge-loaded card slots allow individual, dedicated access to each card from the front panel. This means single cards can be swapped while all other cards remain fully in service during the swap of that single card.

A dedicated LED for each card slot provides a clear indication which slots are currently in use and/or processing traffic.

Contrary to other products on the market, each of the card slots are fully independent; each smart card has its own reader (including UART) and there can be simultaneous / concurrent transactions on all of the card slots. There is no multiplexing.

Remote SIM cards for cellular

The primary use cases are in the context of the cellular telecom domain, where large banks of SIM cards are used in scenarios such as

- least-cost routing of voice, SMS or data services to different cellular networks of different operators
- remotely deployed systems for automatic remote roaming probes, providing roaming testing services to operators – particularly in combination with the remote SIM functionality.
- remotely deployed systems for service / QoS testing of cellular networks
- test equipment for interoperability, load and functional testing of cellular infrastructure equipment.

Smart Cards access for Cloud Applications

With sysmoSIMBANK, you can migrate applications requiring smart card access into the cloud. Combined with the open source osmo-remsim software created by sysmocom, any PC/SC compatible application can access a remote card slot of a sysmoSIMBANK.

sysmoSIMBANK will be delivered without any

smart cards. Compliance to the ISO 7816-3 specification ensures interoperability with any ISO7816-3 compatible contact smart card – including but not limited to SIM/RUIM/USIM/ISIM/TSIM cards.

The sysmoSIMBANK product family is based around multiple sysmoOCTSIM 8-slot CCID boards. All software on the sysmoSIMBANK main CPU as well as the firmware of the sysmoOCTSIM are developed by sysmocom as Free / Open Source Software (FOSS).

Software Integration

A sysmoSIMBANK internally combines a number of 8-slot sysmoOCTSIM CCID devices with an embedded x86_64 Linux system. The sysmoOCTSIM are attached to the Linux system via custom-built USB hubs that feature per-port power switching. This means that every set of 8 card slots can be separately power-cycled remotely under software control, should it become necessary.

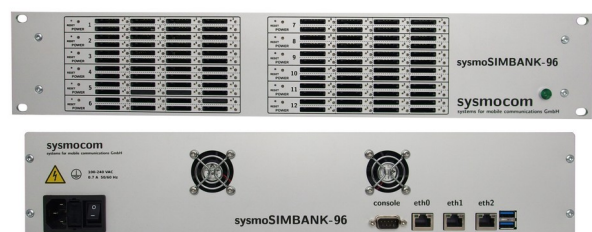


Remote SIM operation / SIM switching

sysmoSIMBANK can be combined with the sysmoQMOD (quad mPCIe modem carrier with built-in remote SIM function) and the osmo-remsim software to build complete end-to-end remote SIM systems.

This allows the alternating use of multiple SIMs with each of the modem by switching between those SIMs via software.

The remote SIM functionality is possible via Internet connection, making it easy to test new SIM cards for roaming capabilities. As the number of remote SIMs is not limited, the remote SIM functionality works also perfect for automated SIM cycling and subsequent testing of e.g. service availability in dedicated local networks.

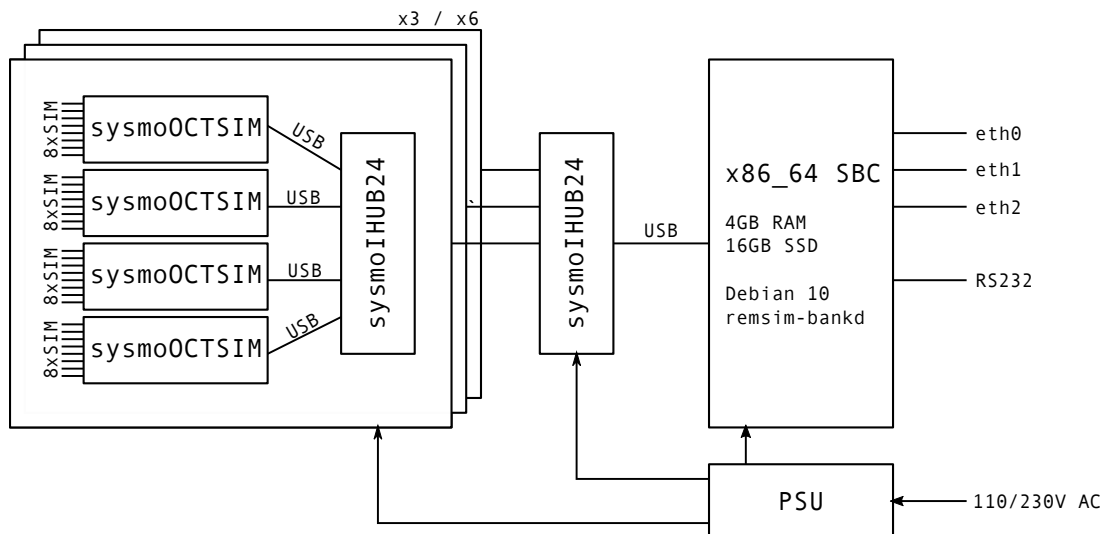


Mechanical / Electrical Specification

	sysmoSIMBANK-96	sysmoSIMBANK-192
Number of card slots	96	192
Dimensions (W x H x D)	445 x 88.4 x 380 mm 482.6 x 88.4 mm 19" 2U front panel	445 x 177 x 380 mm 482.6 x 177 mm 19" 4U front panel
Mounting	19" Rack Mount	
SIM/UICC smart card slots	ETSI/3GPP 2FF form factory, edge-launch sim slots	
Smart Card Voltage	5V, 3V and 1.8V	
Smart Card Clock rate	5 MHz, 10 MHz, 20 MHz.	
Smart Card Baud Rate	up to 300 kbps tested, higher speeds possible	
Network Interfaces	3x Gigabit Ethernet on RJ45	
Main Processor	AMD GX-412TC (1GHz quad-core with AES-NI)	
RAM / Flash	4 GB DDR3-1333 ECC / 16GB mSATA SSD	
LED	separate status LED for each card slot	
Input Voltage Current Max	built-in AC power supply, 100 – 240 V / SB-96: 0.7A@110V/0.35A@220V, SB-192: 1.4A@110V/0.7A@220V	

Software / Logical Specification

Software	osmo-remsim software (https://osmocom.org/projects/osmo-remsim/wiki) <ul style="list-style-type: none"> REST API for mapping cards to users ifd_handler for enabling PC/SC access to remote cards
sysmoOCTSIM USB Protocol/Interface	<ul style="list-style-type: none"> USB-CCID as per "Smart Card CCID version 1.1" by USB-IF USB-DFU as per "Device Firmware Upgrade 1.1" by USB-IF
Smart Card Protocol	ISO 7816-3 T=0 (support for T=1 can be added upon customer request)



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