MP300 C3

A multiprotocol contact tester

The MP300 C3 Advantage

The MP300 C3 is the market leader for tasks related to test and (pre-) personalization of contact smartcards and smart objects in manufacturing contexts. Used at the factories of the major smart card and chip manufacturers, this tool perfectly integrated the constraints of the manufacturing world : high throughput, reliability, and efficiency.
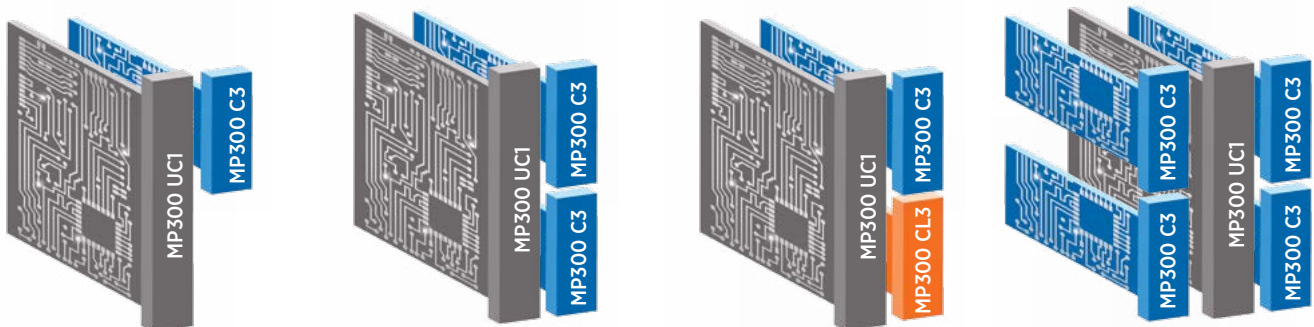
① Status indicator

② Production contact head

The MP300 range of products is based on a mother board (MP300 UC1) which can host up to 4 different modules.

By mixing different modules together on the same mother board, it is possible to build customized configurations to fit your exact needs.

More combinaisons available on demand

The Ideal Tool

Application Fields
- Personalization
- Pre-personalization
- OS loading
- Electrical testing

Supported Protocols
- ISO/IEC 7816
- USB 2.0
- SWP
- I2C
- SPI
- Synchronous chips
- Raw mode

Supported Tests
Electrical tests
- Open/short test (all contacts, forced current adjustable)
- Leakage current measurement (all contacts)
- Voltage measurement (all contacts, static & dynamic modes)
- Current measurement (all contacts, static & dynamic modes)
- Parametric tests (V=f(I), I=f(V))
- SWP specific measurement functions (statistics on SWP C2 current values)
- Anti tearing test (simulate the chip's immunity against tearing from the reader)
- Timing measurement
- Personalization assisted by hardware

Electrical tests covered
- Open/Short
- Leakage current
- Chip consumption
- Drivability
- Current & voltage
- SWP S2 current value
- Vforce/Iforce
- Accurate definition of the test-conditions

Key Points

- Possibility to install up to 4 MP300 C3 modules on the same mother board
- Support of the ISO/IEC 7816-3 and – 4 protocols
- Management of the I2C protocol by hardware, for a faster M2M component personalization
- Full implementation of the T=0 and T=1 protocols
- Support of numerous memory chips
- Open for implementation of custom protocols

- Support of the fastest smartcards
- Fast hardware assisted data transmission mechanism, ensuring the maximum throughput for CPU and memory modules
- Advanced electrical test and measurement features (open/short, leakage, chip consumption, ...)

BUSINESS AREAS

| Telecom | Banking | E-health | M2M | NFC enabled | USB Stick | Contact Micro-modules |

Supported protocols

ISO/IEC 7816	
T=0 and T=1 protocols:	100% implemented, managed by firmware and FPGA, accelerated by hardware
USB 2.0 (optionnal)	
- Available speeds: Low speed, full speed	
- Classes : ISO/IEC 7816-12, mass storage, custom protocols	
SWP (ETSI TS 102 613 and TS 102 622) (optionnal)	
- SWP transmission: Assisted by hardware	
- LLC layers support: ACT, CLT and S-HDLC realised by firmware	
I2C	
Supported modes :	Standard mode
	Fast mode
	Fast mode plus
SPI	
Synchronous chips (memory chips)	
Raw mode: implementation of custom protocols and support of out of standard chips	

Programmable parameters

Physical Parameters	
Voltages	Vcc, Vol, Voh, Vil, Vih adjustables
Frequency	
ISO 7816 and MMC/SD clock frequency: 10kHz to 20MHz (duty cycle adjustable between 30% and 70%)	
Pin states: all pins are managed separately	

SWP Communication Parameters

SWP communication parameters
- Available baudrates: 106, 212, 424, 848 kbit/s, 1.6Mbit/s
- Adjustable parameters: Activation time, P2,P3, S2 current detection level

NI Services and Support

- Maintenance contracts :
  - Firmware/software updates
  - Hardware repair
  - Onsite customer support
  - Replacement tool
- Technical support located in Asia, Europe and Americas

- Training courses customizable :
  - knowledge level based
  - Time constraints
  - Topics of interest
- Debug and pre-certification of contact and contactless devices