

MP300 CL2

High performance industrial contactless reader/writer and tester

- ◆ Industrial contactless smart card reader and tester
- ◆ Supports ISO/IEC 14443 A/B, Innovatron™, Mifare™, FeliCa™, ISO/IEC 15693 protocols
- ◆ Supports the highest data rates
- ◆ Can manage wafers, micro-modules, smartcards, e-Passports, RFID tags



OVERVIEW :

This production tester will typically be used in the following contexts :

OS loading, pre-personalisation, or personalisation of micro-modules and smartcards
Reel to reel test handlers (micro-modules, RFID tags, ...)

The main features of the MP300 CL2 are :

Up to 2 MP300 CL2 testers can be installed on one MP300 mother board
Compatible with ISO/IEC 14443-3 and -4, ISO/IEC 15693, Mifare™, FeliCa™, Innovatron™ specifications
Full management of the T=CL protocol
Supports the highest data rates (up to 848 kbps)
All physical parameters adjustable (field strength, carrier frequency, modulation index, rise and fall time of the modulation, ...)
All logical parameters adjustable (data rate, duration of the bits, waiting time)
Open for implementation of custom protocols
Compatible with wafers, micro-modules, smartcards, e-Passports, M2M components, RFID tags, inlays
Presence of an ISO/IEC 7816-3 SIM card reader, for SAM (security access module) usage
Advanced logical test features (response time measurement, modulation alternance, short time between two commands, ...)
Open platform : integrate the MP300 CL2 inside your own personalisation environment
Compatible with the MVPi production machine interface

SPECIFICATIONS :

Number of independent test head per board : 1

Supported protocols

ISO/IEC 14443 (proximity cards)	
Type A	Supported
Type B	Supported
Anticollision	Managed

T=CL protocol	Managed
Supported data rates	106, 212, 424, 828 kbps Asymmetrical data rates supported
BL (Innovatron)	
Supported	
ISO/IEC 15693 (vicinity cards)	
Supported speeds	Low data rate High data rate
Encoding modes	1 out of 4 1 out of 256
ISO 18000-3 Mode 1	
Supported	
Mifare TM	
Types supported	Classic Light Ultra Light Ultra Light C Many more
Encryption	Assisted by hardware
FeliCa TM	
Available data rates	212 and 424 kbps
Encryption	Available through an external device
Raw mode	
Gives the possibility to exchange frames without any protocolary encapsulation	
Out of standard chips	
Benefit from Micropross\'experience in smartcard programming	

Programmable parameters

Physical parameters	
Field strength	Adjustable
Modulation index	From 0% to 100%
Field rise time	0ms to 5ms
Carrier frequency	12.56MHz to 14.56MHz
Modulation rise and fall times	0µs to 10µs
Logical parameters	
Type A pause width	0 to 4.4µs
Frame waiting time	Adjustable in ETU
Type B framing (SOF, EGT, EOF, bit duration)	Adjustable in clock cycles
Communication speed	106, 212, 424, 848 kbps

SAM (Security access module) plug available

An ISO 7816-3 compliant SIM chip reader is available on each CL2 module, in case security features are needed

Available tests

Automatic testing	
Send type A command, wait, send type B command and receive answer (for type B cards)	
Send type B command, wait, sent type A command and receive answer (for type A cards)	

Switch on field, wait, send request command (A or B), receive answer
Send request, wait, send request, receive the answer
Antitearing
PICC reset characterization
Check minimum FDT (frame delay time)
Testing through API manipulation
Response time measurement
Sending of out of standard frames
Sending misformed blocks (wrong number of bits)
Retro modulation ratio measurement
Distance simulation checking

Communication parameters

USB 2.0
TCP/IP 10/100 Mbps
RS 232

Software development

Remote development (the code is executed from the PC)	
Elements available	MPSDK .NET library available on demand Communication Dll supplied
Supported programming languages	C, C++, VB, Java, .NET Any language that supports Dll
Embedded development (the code is executed directly by the MP300)	
Recommended cross compiler	Windriver compiler (preferred version : 4.4b)

User Interface

MPManager, MVPi

SOFTWARES :

The MP300 CL2 can be accessed using several ways :

First, using the driver dll that we supply, which enables the user to access all functionalities of the MP300 CL2 from any programming language that supports Dll

For users preferring to embed their code directly inside the MP300 CL2, Micropross has designed the SORB interface, which completely encapsulates all programming tasks related to the management of embedded applications, and lets the user focus on the smartcard oriented code

Finally, we can also supply our own user interface, MVPi, which elegantly conciliates convenience of use, high throughput and stability.

MVPi is able to handle up to 32 test heads at the same time, but upgrades are easily possible.



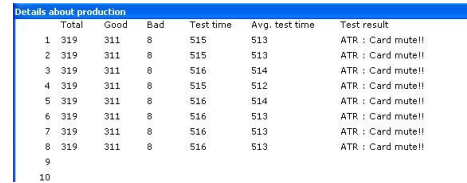
Head	Total	Good	Bad	Error
1	11	11	0	0.00%
2	11	11	0	0.00%
3	11	11	0	0.00%
4	11	11	0	0.00%
5	11	11	0	0.00%
6	11	11	0	0.00%
7	11	11	0	0.00%
8	11	11	0	0.00%
9	11	11	0	0.00%
10	11	11	0	0.00%
11	11	11	0	0.00%
12	11	11	0	0.00%
13	11	11	0	0.00%
14	11	11	0	0.00%
15	11	11	0	0.00%
16	11	11	0	0.00%

Statistics are available, either separated between all test heads, or displayed for the whole system



Fabrics details - Head 3	Count	Percentage
217 (Carte mute)	4	100.00%

More statistics are available, showing the current test time, as well as the average one.



	Total	Good	Bad	Test time	Avg. test time	Test result
1	319	311	8	515	513	ATR : Card mute!!
2	319	311	8	515	513	ATR : Card mute!!
3	319	311	8	516	514	ATR : Card mute!!
4	319	311	8	515	512	ATR : Card mute!!
5	319	311	8	516	514	ATR : Card mute!!
6	319	311	8	516	513	ATR : Card mute!!
7	319	311	8	516	513	ATR : Card mute!!
8	319	311	8	516	513	ATR : Card mute!!
9						
10						

As smartcards are being produced, logfiles are also generated, that allow to keep track of the produced components. The content of this logfile is controlled by the user.

ACCESSORIES :

Micropross supplies a complete range of accessories for the MP300 CL2, that include :

- Various sizes of rack housing, who allow to protect the Micropross testers from any kind of hazard
- Different types of antennas
- Software for production machines (MVPi)

We also supply packages to extend the warranty of the tester. Please ask us for the maintenance contracts available.