MP500 PT1-NFC

Manufacturing optimized high-end test tool for NFC devices

The MP500 PT1-NFC Tester Advantage

You want to test NFC devices in a manufacturing environment? (but also banking terminals and smart objects operating at 13.56MHz). The MP500 PT1-NFC enables device producers to perform functional test (simple communication) as well as physical measurement in record time. Because in a manufacturing environment, testing time and operator friendliness are worth gold, the MP500 PT1-NFC comes supplied with an innovative triple antenna, allowing to perform Reader/Writer mode and Card mode testing, as well as resonance frequency and S11 parameter measurement without any human operation.
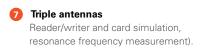
1 **General Analog Input**
Measurement, reception

2 **Trigger**
I/O

3 **Smart Card Communication**
Output and impedance measurement

4 **General Accessoires**
Measurement, active antenna, load modulation

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6 **Communication**
Ethernet synchronization, trigger, USB host

7 **Triple antennas**
Reader/writer and card simulation, resonance frequency measurement).

The Ideal Tool

Supported Tests

Electrical testing
- Resonance frequency measurement / Q factor
- S11 parameter measurement
- Card LMA measurement
- Card Bitrate
- Reader field strength
- Reader carrier frequency
- Reader waveform characteristics (t1,t2,…)
- Reader input sensitivity

Logical testing
- Numerous timing controlled pre-implemented test sequences
- Antitearing

Supported Protocols
- ISO/IEC 14443-3 (proximity cards) (Type A/B)
- B' (Innovatron™)
- ISO/IEC 15693 (vicinity cards)
- ISO 18000-3 Mode 1
- Mifare™
- FeliCa™
- NFC Forum modes: Peer2Peer,Listening, Polling
- NFC Forum tags (Tag types 1,2,3,4)
- ISO 18092 (NFC-IP1)

Application Fields
- End of line test of NFC devices on Over the air or conducted mode
- Manufacturing test of contactless readers

Spy Feature

Signals displayed:
- Field presence, modulation
- sequences, bytes
- I/O direction
- baudrate change
- triggers...

Key Points

- Evolutive and scalable: features evolve together with the customer test plan
- Support of ISO 14443 A/B, ISO 15693, Mifare™, FeliCa™
- All communication parameters adjustable (field strength, modulation index, baudrate, …)
- Support of active load modulation powered devices
- Integrated oscilloscope, for analog measurement to correlate with NFC Forum and EMVCo

- Full set of triple usage antennas : terminal simulation, card simulation, and resonance frequency/Q factor measurement
- Presence of a VNA, for resonance frequency, Q factor, and S11 parameter measurement
- Integration in customized manufacturing environments possible using a Dll, or a LabVIEW driver

BUSINESS AREAS

| Telecom | Banking | E-health | Semiconductor | Automotive | Wearable |

Supported protocols

ISO/IEC 14443-3 (proximity cards) (Type A/B)	
	106, 212, 424, 828 kbps`
Supported data rates	Asymetrical data rates supported
	VHBR (ASK&PSK) supported
B' (Innovatron™)	
ISO/IEC 15693 (vicinity cards)	
Supported communication speeds	Low & high data dates, 1 out of 4 & 1 out of 256
ISO 18000-3 Mode 1	
Mifare ™	
FeliCa ™ (optionnal through a hardware add-on)	
NFC Forum modes : Peer2Peer, Listening, Polling	
NFC Forum tags (Tag types 1,2,3,4)	
ISO 18092 (NFC-IP1)	
Modes supported	Active/passive mode, in both Initiator/Target variantes
Raw mode : implementation of custom protocols and support of out of standard chips	

Programmable parameters

Physical Parameters
Field strength, modulation index, rise&fall times
Generation of arbitrary waveshapes
Amplitude of the signal in smart card simulation mode
Logical parameters
Type A pause, FWT, type B framing, communication speed

Spy feature

Signals displayed	Field presence, modulation, sequences, bytes, I/O direction, baudrate change, triggers...

Available tests

Electrical testing
Resonance frequency measurement / Q factor)
Complex impedance (chip/antenna)
Magnetic field measurement
Generation of EMD (Electro Magnetic Disturbance)
Logical testing
Numerous timing controlled pre-implemented test sequences
Antitearing
Framing (parity error, CRC error, protocol error)

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