

COMPRION

Pre-Conformance Testing According to NFC Forum, EMVCo, and GSMA

Modular test solution for contactless interfaces



Pre-Conformance Testing of Contactless Interfaces

The Benefit of COMPRION's Pre-Conformance Test Approach

To help to ensure that contactless bank cards and NFC-enabled smartphones, wearables, tags, and contactless tokens can smoothly communicate with the reading devices, COMPRION offers modular pre-conformance test solutions. They allow the execution of the same test cases as required for conformance validation but running on not validated hardware. Thus, pre-conformance packages help

to reduce the invest in the test setup significantly. Having this test equipment available in the own lab, serious errors can be already detected in the development phase at an early stage. This shortens the whole development process, especially for the physical interface design. Last but not least, the money spent during conformance test sessions is reduced significantly.

Core Components

COMPRION test solutions always consists of in-house designed hardware and software. To keep the required investment for contactless pre-conformance testing as low as possible, both hardware and software are split up into individual modules and packages:

Device Test Center

Device Test Center is COMPRION's test plan management software that actually runs the test cases. It always provides the same reporting capabilities, whether working in a pre-conformance or conformance test environment. A digital storage oscilloscope visualizes the analog RF signal and helps with the evaluation. Parallel recordings of monitoring data supply valuable background information for analyzing the test results in detail, in particular for failed tests.

Specific test case packages for product approval

COMPRION offers test cases for all conformance tests defined by NFC Forum and within GSMA TS.27, and for all contactless EMVCo L1 tests. Specific packages address exactly the product approval needed: as for example, testing particular tag types (2, 3, 4 A/B, 5) only.



Modular hardware

All COMPRION pre-conformance test solutions of contactless interfaces are based on CL Verify A (see table). Some analog tests for NFC Forum or EMVCo require additional capabilities provided by CL Quantify, some EMVCo and ISO tests need the separate amplifier CL Amplify.

The setup is completed by the appropriate antenna depending on the test task be it analog or digital, device or card.

All hardware modules can be used as desk top devices or, alternatively, mounted in standard 19" racks for compact use in lab environments. The hardware modules can also be used as calibrated measuring devices for the magnetic field strength.



COMPRION hardware modules for contactless pre-conformance testing

Covered Test Specifications	CL Verify A	CL Quantify	CL Amplify	Reference Antennas
NFC Forum	✓	✓		✓
GSMA TS.27 "NFC Handset Test Book"	✓			
EMVCo Contactless Level 1	✓	✓	✓	✓

Modular concept for contactless pre-conformance testing

Key Features & Benefits

- Unique pre-conformance approach
 - No surprise in the certification lab: detect the "expensive" conformance issues earlier
 - Use the same software as the test house lab: quick and simple exchange of logfiles and results

Modular test platform

- Cost efficient test solution as software and hardware can be grouped for each test task individually

Automated positioning

- Integrated robot interfaces help to connect to commonly used robots
- Robot controlled positioning allows to obtain fast, accurate, and reproducible measuring results

COMPRION one stop shop

- No headache to complete the setup: COMPRION provides for the specific product approval task all required hardware and software components

Increase Return on Invest

- Re-use the hardware with Design Validation Center (see separate brochure) to characterize the magnetic near-field





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