



Integri

a Clear2Pay company

INQ® End-to-End Mobile Platform

3GPP Handset Test Suites

Description

Testing handsets and in particular the handset-to-SIM interface is an important aspect of quality control. Indeed, before launching a new release or before contracting a new vendor, you want to be sure that both SIM and handset are fully compatible. It is essential that the commands from the handset are correct and the reaction of the handset, based on the data in the responses, are also conform to the standards. Of course, the robustness of the handset in case of wrong answers and time-outs needs to be checked particularly thoroughly.

Testing the handset only against some sample SIM cards does not result in a sufficient test scope and has a number of disadvantages.

- For practical reasons the number of SIM cards, and therefore the number of test cases, is restricted.
- It requires an intensive interaction by the test operator, to remove and insert the different SIM cards.
- Sample SIM cards always react as intended, and therefore it is difficult to inject errors to test the error handling and robustness of the handset. The alternative of producing special erroneous test SIM cards would be very costly.
- When anomalies occur, they are difficult to analyze. Test cards cannot detect and log errors. As a result, if the handset did not react as expected, much time would go lost in attempts to find and analyze the underlying reasons.

That is the reason why the Integri 3GPP SIM Simulators are indispensable. The SIM Simulator simulates the behavior of a physical SIM card. It comes with a Hardware Adapter and probe, which is inserted in the handset under test, thus replacing the test card. The Simulator is provided with different "models", i.e. with different SIM personalizations.


The tool is also used to generate errors in the transaction through event scripts. This feature can be used when analyzing the detailed error processing for the handset. A number of international test specifications have been published within 3GPP, to test the conformance of mobile stations to the GSM standards, the SIM application toolkit and the UMTS standards.

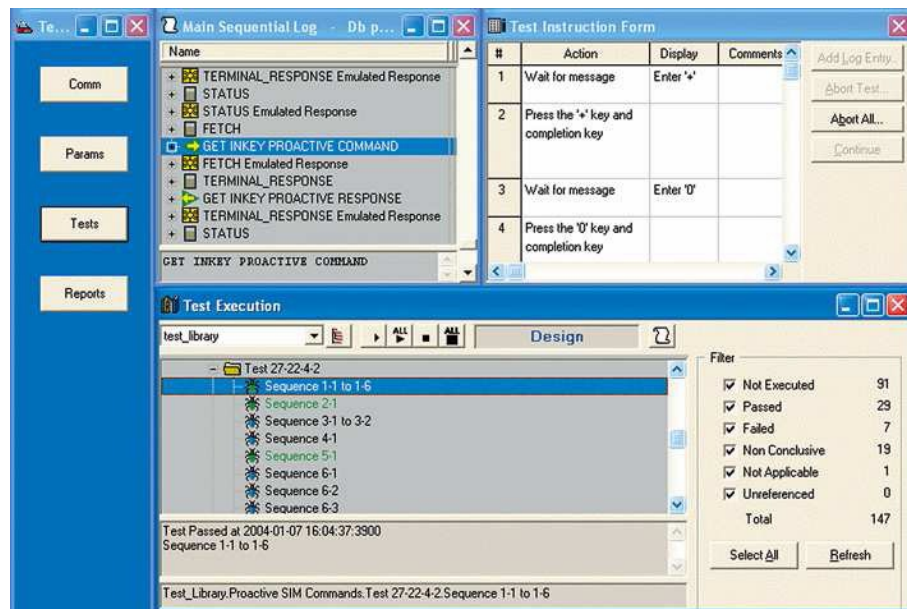
The test suite uses the SIM card simulator with a user-friendly interface that simultaneously displays the list of possible tests and dedicated, step-by-step instructions for the test operator. Thanks to this interface, the operator is closely guided by the test scripts and can insert an error description directly into the tool when an error occurs. This description is automatically added to the final test reports.

Highlights

- Indispensable for handset testing
- Simulates the SIM, with choice of ATR and protocol parameters
- The user can easily edit and modify the SIM model (data and record structure) and thus simulate different personalizations
- The normal behavior of the simulator can easily be modified to simulate errors, such as time-outs, different response codes, wrong cryptograms, etc.
- Comprehensive logging, facilitating the analysis and interpretation of errors
- Test Suites available for all relevant 3GPP standards, whereby the tester is guided using a user-friendly interface.
- All test scripts are accessible in source code. The user can further develop additional tests, to go beyond the standard set of tests.

Out of the box testing





Technical specifications

SIM Simulators:

- GSM 51.011 SIM Simulator
- GSM 51.014 SIM Simulator
- ETSI 102.221/31.102 USIM Simulator
- 3GPP 31.111 USAT Simulator

Handset Test Suites:

- 3GPP TS 51.10-4 (Release 4) Mobile Station Test Suite (STK) (Referenced by Global Certification Forum - GCF)
- 3GPP TS 51.010-1 (Release 7) MS Conformance Test Suite (Referenced by Global Certification Forum - GCF)
- 3GPP TS 31.121 (Release 6) UICC-Terminal Interface Conformance Test Library (Reference by GCF pending)
- 3GPP TS 31.124 (Release 6) MS Test Suite

Product Family

Requires the INQ End-to-End Mobile Platform – Handset Testing configuration.

Requires the Micropross STAR 3150 Hardware Adapter.

Particularly useful in combination with the Integri "Pro-Active Command Generator" when simulating a SIM toolkit.

Different smartcard probes available, including ID-1 and ID-000.

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Integri is a wholly owned, autonomous business unit of Clear2Pay, an international financial technology company focused on delivering globally applicable solutions for secure, timely electronic payments. Clear2Pay operates from 13 international offices and currently employs over 400 staff.

Integri headquarters

Leuvensesteenweg 325/3
B-1932 Zaventem
Belgium
P: +32 2 717 69 00
F: +32 2 717 69 67
E: info@integri.com
W: www.integri.com