

Zero Certification Software User Manual

1.1

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About

uFR Zero Certification is a specialized diagnostic application designed to test and verify the functionality of uFR Zero NFC (Near Field Communication) card readers.

The application performs automated testing sequences to ensure that NFC readers are operating correctly.

Hardware Requirements

- ❖ uFR Zero NFC Reader - with latest firmware (v10.0.72)
- ❖ USB Port for reader connection
- ❖ NFC Card for testing (NTAG2XX recommended) ❖

Display: Minimum 800x600 resolution recommended

Usage

1. Plug in the uFR Zero reader
2. Launch the application
3. Connect the reader using "Connect" button using "Simple" or "Advanced" method
4. Place an NFC card on the reader
5. Start one of the provided tests (Default, RF On, RF Off)
6. Watch the results:
7. PASS (green) = Reader (and card) are working as expected
8. FAIL (red) = Problem detected (see error message in the Log for details)
9. ERROR (orange) = Number of errors occurring during the test
10. Tests repeat automatically in auto-loop mode
11. Click STOP to halt testing at any time

Testing is automated, and the counters "PASS", "FAIL", and "ERROR" monitor the status.

- Pass: Whole diagnostic sequence passed as expected
- Fail: An error occurred during the sequence
- Error: Sum total of errors occurring during testing

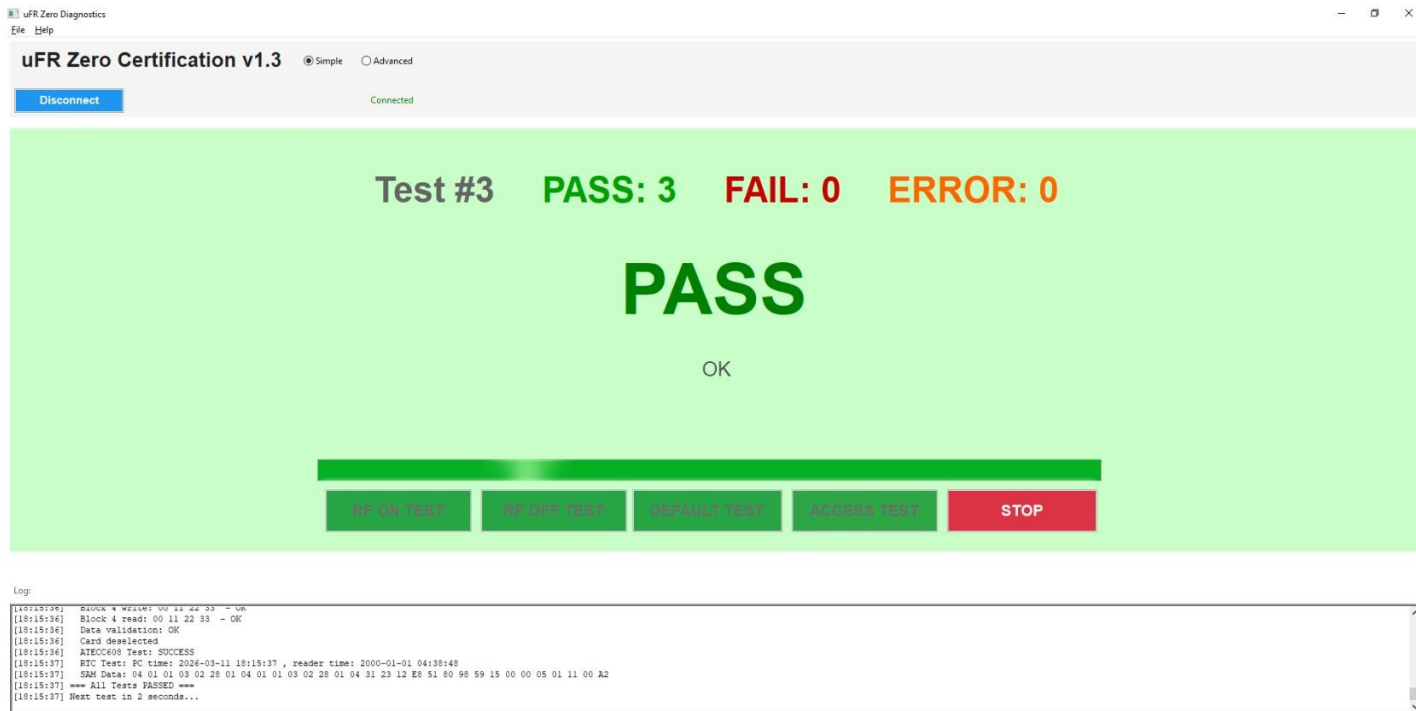


Image 1. Successful diagnostic screen

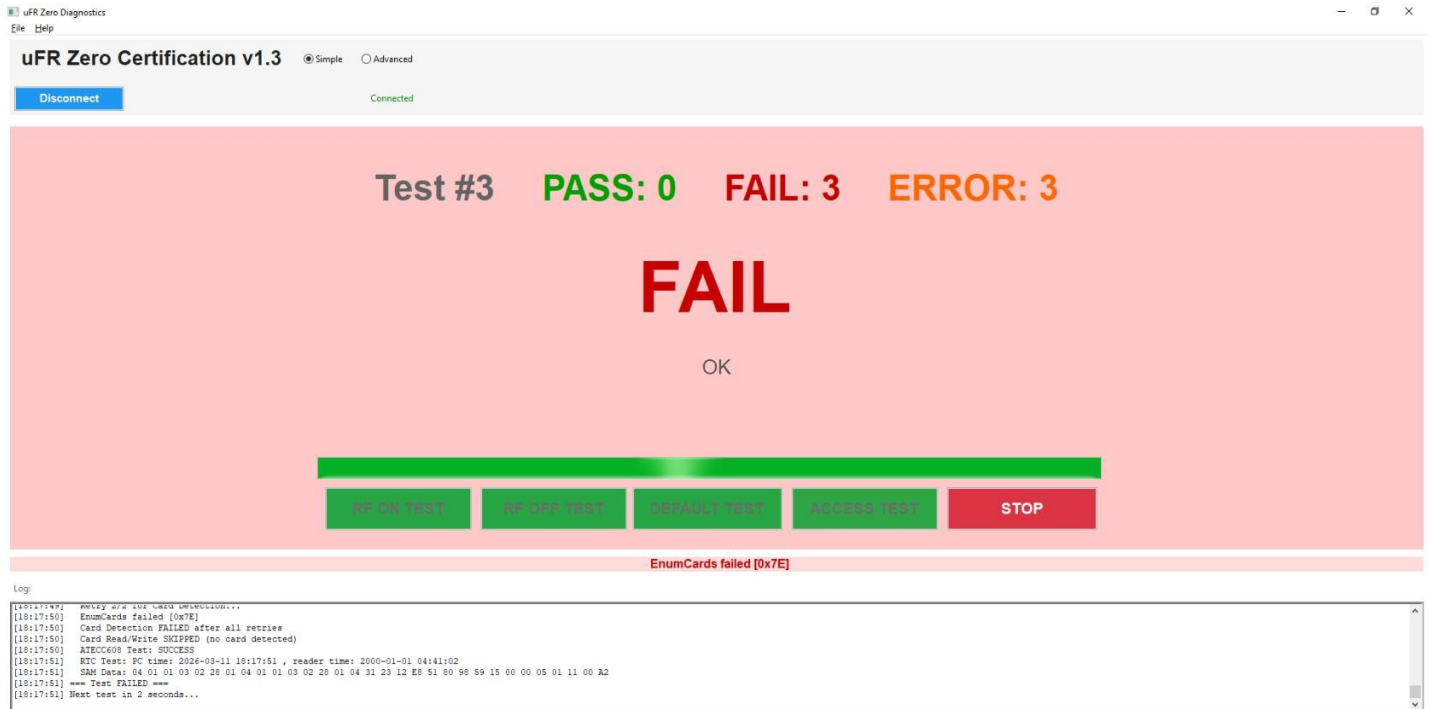


Image 2. Test failed screen, with error codes displayed

Test sequences

This application performs a continuous diagnostic sequence on uFR Zero NFC readers:

1. Device Check - Verifies reader communication, retrieves firmware version, serial number, hardware version
2. Card Detection - Detects NFC card presence and reads card UID
3. Card Read/Write - Tests block write/read operations with data verification
4. ATECC608 - Tests I2C communication with the ATECC608 chip
5. RTC - Checks the time stored in the reader
6. SAM - Tests communication with the SAM module
7. ACCESS CONTROL part test - Only for uFR Zero CS UART with test module.

RF On Test

Before the test sequence begins, the reader is configured as such so that the RF field is always on. This test omits the card operation tests (detection, read/write steps are skipped).

RF Off Test

Similar to RF On, the difference being that the RF field is turned off and stays as such during the testing. Card operations are skipped as well.

Default Test

Includes all test sequence steps, requires an NFC card present on the reader. The RF field is always turned on for the duration of the test.

Access Test

This test is only for the **uFR ZERO CS UART** model with an attached module to test the Access Control function of the device. The test sequence steps are the same as in Default Test, with an additional test of Access Control part of the reader.

Log file

The log file is created on software start, "Logs" folder is created next to the executable, and log file names are formatted as: "*Logs/Log_YYYYMMDD_HHMMSS.txt*"

Revision history

Date	Version	Comment
2026-02-05	1.1	Document renamed, updated for v1.3 of the software
2026-02-02	1.0	Version 1.0 of the software documented

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.