



FIME[®]
Enabling Business with
IC Testing Solutions



FIME Form Factor Testing
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For further information:
www.fime.com
Contact:
sales@fime.com

FIME Form Factors Testing

Different kinds of payment forms enable people to pay for what they like, how they like, on the move. Many devices have been mounted into traditional bankcard shaped plastic cards, with dual contact/contactless cards, mini-cards and USB/credit devices now available to offer multi-purpose applications.

Form factors are not limited to a card shape. NFC telephones, watches, key fobs, pagers, belt clips, stickers, bracelets and badges have all been used for both contact and contactless projects to offer end users more rapid and convenient ways to pay.

These new form factors require new types of conformity test sessions in order to assure their resistance and durability before their commercialization.

FIME FORM FACTORS TESTING

FIME – For Contact & Contactless Form Factor Testing

FIME test centre has adapted its contact and contactless capabilities to these new payment means and is now able to undertake a large range of tests.

These tests have been established on the same basis as for traditional card technologies, namely EMV, MasterCard *PayPass*™, Visa Wave and JCB. These form factor tests also correspond to the required ISO specifications that relate to these technologies, including ISO 10373, ISO 7810, ISO 7816-1, and ISO 10373-1.

Card-Shaped Form Factor Testing

For most card form factors (mini cards, dual cards, unique card shapes), classic test sessions can be undertaken, for example:

- Rigidity tests
- Width, length, thickness and corner dimensions (in this case, dimensions must be provided by the client)
- Resistance to chemical materials
- Electrical resistance

New Form Factor Testing

For other form factors (watches, key fobs, bracelets, belt clips, stickers, etc...) certain 'traditional' durability and analogical card tests are also applicable, based on the size and the shape of the sample.

Some examples of possible tests are:

- X-Ray test
- Opacity Test
- Exposure under U.V. light test
- Electrical and electrostatic resistance
- Salt and saliva tests.

Bespoke Form Factor Testing For Your Product

FIME is able to undertake made-to-measure form factor tests based on your requirements. These personalized tests are invented in close collaboration between FIME's test engineers and the customer's requirements.



For information, please contact:
sales@fime.com
 Visit www.fime.com
 or telephone: +33 (0) 164.539.500



Several tailor-made tests have already been created by FIME that can be adapted to test your form factor product:

These tests are all based on ISO standards and recognized internationally.

- A **Drop Test**, which uses a robotic arm to drop the sample from a 1.5-meter height onto a concrete surface continually over several hours. A visual and functional inspection is then carried out on the sample.
- A **Contact Durability Test** inserts and removes the form factor device from the terminal 30,000 times at a maximum rate of 200 cycles per hour. The visual, functional and tightness of the samples are then checked after each 5,000 insertion/extraction movement and at the end of the session.
- A **Contactless Form Factor** test uses a robotic arm to test the form factor's transaction time and operating zone angles using a software program to simulate the form factor's approach to the terminal. This test assesses the reliability of transaction from a variety of angles, directions and velocities to ensure contactless payment is as seamless as possible for the end user.
- A **Durability of Button Test** activates a probe that pushes the button of the form factor device vertically. This movement is repeated 100,000 times at a rate of 30 times per minute, and with a force of 1 pound each time. The functional reliability of the button verified with this test.

ABOUT FIME FORM FACTOR TESTING SOLUTIONS

FIME is a leading test solutions provider, a genuine business catalyst for the development of contactless products. Through its worldwide reach, FIME supports all market players with know-how and a complete offering in consulting, test solutions, tools, outsourced R&D for IC-projects.

A pioneer in contact smart card testing in the 90's, FIME has affirmed its leadership in the contactless domain today. With over 100 employees on three continents, FIME provides a solution adapted to the local needs of its customers. FIME offers the stability of a company which is part of a large group, as well as the functional flexibility of autonomous teams strongly implicated alongside their customers.

For more information, contact sales@fime.com.

For both card-based and next generation form factors, FIME can provide you with innovative contactless and contact testing sessions. FIME can adapt ISO tests for your form factors OR create new test techniques to fit your requirements.

FIME EUROPE TEST CENTRE

8 rue Commodore J.H. Hallet
Parc d'activités de la Folie Couverte
14000 Caen – France

FIME ASIA TEST CENTRE

Suites 807-808, 8FI, N°2,
Lane 150, Sec. 5 Shing-Yi Rd,
Shin-Yi Chiu
Taipei – Taiwan 110, R.O.C

FIME AMERICA TEST CENTRE

75 rue Queen, Bureau 2900
Montréal, Québec
H3C 2N6, Canada

For information, please contact:
sales@fime.com
Visit www.fime.com
or telephone: +33 (0) 164.539.500

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