Keysight Technologies
SA8710A Automotive Cybersecurity Penetration (PEN) Test Platform

Test the resilience of your vehicle’s systems

The fully autonomous vehicle is the dream for most automakers and their customers around the world. To make this happen, the car needs to be connected to the outside world. These connections, however, expose the car to outside interference. Keysight can help you find vulnerabilities before anyone else does.

It’s a software problem

Cars run on software from various sources, and even the best coding practices have errors:

- Software development policies differ even within a company. Consolidation and coordination of code from suppliers is required.
- There are 100,000,000 lines of code in a modern high-end car. With 0.1 coding errors per 1000 lines of code, each car potentially has 10,000 software bugs.
- A car’s typical lifespan is 10-15 years. It’s difficult for the suppliers to support the software over this long duration.

Keysight can help

The Keysight Automotive Cybersecurity PEN test platform is a multi-layered solution to enable effective testing of your devices.

- A combination of hardware, software and services to test the resilience of your ECUs, systems, or fully developed cars
  - Hardware that connects to the DUT via all relevant interfaces
  - Software that runs attacks against (exploits) the various interfaces
  - Subscription service for the Keysight threat library application and threat intelligence (ATI)
- Validation of your systems using the Keysight threat database
  - Report any vulnerabilities and their severity
  - Make recommendations on how to address the vulnerabilities
- Regression testing and enterprise level management
  - Save the found vulnerabilities for repetitive use
  - Integrate with the Keysight Pathwave Lab Operations platform
- Integration with customer’s enterprise platform
  - Cloud and database services
  - Integrate your own tests

The true cost

A single cyber-attack can cost an automaker in the region of $1 Billion. Not only that, it can cause severe damage to a brand’s value and integrity, leaving consumers questioning their trust in the brand.
Adding consistency and value to your cybersecurity test needs

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<th>Enables the implementation and enforcement of company-wide security standards</th>
<th>Covers all relevant interfaces, from hardware connectivity to the application layer</th>
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| • **Consistency** in penetration testing across all R&D teams, both In-house and subcontractors  
• The "out of the box" exploitation mechanisms detect a vast majority of all known attacks | • Cellular, Wi-Fi, Bluetooth, USB, CAN, automotive Ethernet, and more |

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<th>Subscription to updates from our threat database allows for pro-active measures</th>
<th>Documented workflow and results</th>
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<tbody>
<tr>
<td>• Find out if there is a security risk <strong>before</strong> a car is attacked in public or dangerous conditions</td>
<td>• <strong>Traceability</strong> and reporting</td>
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<th>Repeatability of tests (regression testing)</th>
<th>Seamless integration into your enterprise platform</th>
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| • Faster validation of software bugfixes | • The framework is open for integration of any proprietary tests  
• Release management of sub-components up to complete cars |

More information can be found at www.keysight.com/find/autocybersecurity

Learn more at: [www.keysight.com](http://www.keysight.com)

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