

# The 5G Security Test Bed:

## Enhancing Product Security & Threat Response in a Real-World Testing Environment

### A New Pathway for 5G Security Enhancement.



#### Delivers a collaborative, hands-on approach to security.

The 5G Security Test Bed is a unique security initiative that brings stakeholders together and allows product developers to use real networks to test 5G security enhancements.



#### Enhances 5G security and industry threat response.

By testing security functionality in different scenarios, industry and government can identify, mitigate, and respond to evolving threats, protecting consumers, businesses, and government agencies.



#### Contributes to government and industry research programs and priorities.

Government partners—including NIST, NCCoE, and the FCC's CSRIC—can use the Test Bed to review and explore the security use cases they consider most critical to their evolving needs.

The 5G Security Test Bed (STB) is a collaborative endeavor between wireless providers, equipment manufacturers, cybersecurity experts, academia, and government agencies to demonstrate and validate how 5G security will work, using real 5G networks.

In partnership with its founding members, CTIA created the STB to test 5G security recommendations across real-world conditions using commercial-grade equipment and facilities.

### The STB Enhances Security and Contributes to Industry Research and Government Priorities.

5G has strong security protections built in from the ground-up, making it the most secure generation of wireless technology. CTIA's Cybersecurity Working Group, which convenes the world's leading telecom and tech companies to assess and address the present and future of cybersecurity, created the 5G Security Test Bed to build on this foundation, contributing industry expertise and demonstrating the industry's commitment to enhancing protections from cyberattacks.

### The STB Uses Real-World Networks, Equipment, and Expertise.

The 5G Security Test Bed evaluates use cases leveraging an actual 5G network architecture built from a significant investment and in-kind contributions in state-of-the-art equipment. The STB conducts real-world tests in a rigorous, transparent, and replicable manner to serve as a credible balance to theoretical scenarios, policy speculations, and lab-constrained tests.

The test bed:

- Leverages the expertise of wireless providers, equipment manufacturers, and government experts to develop equipment and evaluate use cases.
- Tests recommendations from the FCC's CSRIC advisory body for standalone and non-standalone network environments.
- Uses the same network equipment that U.S. wireless providers use to deliver current 5G services, including both the 5G core and radio network.
- Conducts testing in labs to avoid interference with commercial operations.
- Is governed by industry leaders, guided by government priorities, and managed by CTIA.



## A Methodical Testing Approach.



### Assessment.

Assess use cases submitted by members and partners.



### Planning and Development.

Determine scope and scale of testing and develop test plans.



### Timing.

Provide an estimated testing timeframe.



### Testing.

Conduct tests with the STB's real-world equipment in a Faraday cage environment.



### Analysis and Reporting.

Deliver quarterly technical reports detailing findings, including recommendations and advisory conclusions.

## Practical Use Cases Benefit Real-World Security, Operations, and Performance

The 5G Security Test Bed primarily tests CSRIC recommendations, covering use cases that will help transform cities, government, and industries:

### General Network Security Protections:

- 5G non-standalone (4G LTE core) and standalone (5G core) network security.
- Network slicing protections.
- Protection against IMSI catchers used by cyber criminals.
- Network roaming security.
- Virtualized 5G network security.
- Security across multiple network types through a unified authentication framework.

### Enterprise and Government Use:

- Private 5G networks for enterprises.
- Dynamic supply-chain verification technologies, such as logistics management.
- Automated, reconfigurable factories and other automated factory processes.
- Immersive augmented reality (AR) and virtual reality (VR) applications.

### Smart City Applications:

- Unmanned aerial systems (drones) that leverage 5G connectivity with video.
- Autonomous vehicles (e.g. connected cars, C-V2X).
- High-resolution video surveillance systems using fixed cameras.

## 5G Security Test Bed membership is diverse and growing—join us!

### Founding Members:

#### Wireless Providers



#### Industry



#### Academia



- Private sector entities and federal agencies may engage the STB.
- Pricing and testing duration are based on device complexity and use case to be tested.

If interested in participating in the 5G Security Test Bed, please contact Harish Punjabi at [hpunjabi@ctia.org](mailto:hpunjabi@ctia.org).

