



# Internet of Things (IoT) Cybersecurity Certification Program

Internet of Things (IoT) devices are everywhere. Communities are deploying advanced wireless applications to monitor utilities and manage transportation systems. Businesses are using IoT devices to optimize operations and improve information gathering. Remote monitoring devices greatly help care providers engage with their patients.

Security, privacy, and resiliency are essential considerations as IoT devices become indispensable to our daily lives. We must stay a step ahead of cybersecurity threats!

The CTIA Cybersecurity Certification Program for IoT devices establishes an industry baseline for device security on wireless networks. This certification protects consumers and wireless infrastructure while creating a more secure foundation for smart cities, connected cars, and other IoT applications.



## Keeping Pace with Cybersecurity Threats

CTIA Certification created the over-the-air performance certification test plan to ensure devices operate efficiently on wireless networks. Now, we've created the IoT cybersecurity certification program to protect against devices that may compromise network security.

Take a Denial-of-Service (DoS) attack as an example. This cyber-attack intends to shut down a network by flooding the target with traffic from a hijacked device. Imagine the ensuing chaos if a DoS attack adversely impacted an enterprise application on a network.

The CTIA IoT Cybersecurity Certification Program ensures network operators and consumers of the security capabilities of a device certified under the program. The program continuously updates its requirements to align with new threats, device vulnerabilities, and the latest recommendations from NIST, ETSI, the FCC, and international standard bodies.



## A Logical First Step for Device Manufacturers

Wireless network operators rely on IoT manufacturers to perform vulnerability and security testing on their devices and provide proof when testing is complete. The CTIA cybersecurity certification program for IoT devices covers many of these test cases. The testing criteria are defined such that a CTIA Certification Authorized Test Lab may conduct accurate, repeatable testing.

Earning this industry-respected certification not only makes a manufacturer's product more attractive to consumers but is also a check against device vulnerabilities that is a logical first step to onboarding IoT applications onto wireless networks.

**The Cybersecurity Certification Program certifies security elements of 4G and 5G IoT devices, including those with Wi-Fi capability.**



## Is My Product an IoT Device?

The CTIA Certification Cybersecurity Certification program for IoT Devices classifies an IoT device as a device that contains an IoT application layer that provides identity and authentication functionality, as well as at least one communications module that supports 5G, 4G, or Wi-Fi connectivity. An IoT device also connects to at least one network to exchange data with other devices, vehicles, home appliances, infrastructure elements, etc.

### Examples of Applicable-Devices and Levels of Security.



GPS Trackers



GPS Dog Collar



Smart Appliances



Smart Home Security Systems



Fleet Tracking Systems

#### Level 1 test elements common to Consumer and Enterprise IoT Devices:

- Terms of Service & Privacy Policies
- Authentication
- Access Controls
- Patch Management & Software Upgrade
- IoT Device Identity
- Encryption of Data at Rest
- Encryption of Data in Transit
- Use of Subscription Related Information
- Design-In Features
- Tamper Protection & Evidence
- Constrained IoT Devices



Connected Streetlights



Traffic Controllers



Utility Meters



Mobile Payment Devices

#### Level 2 test elements specific to Enterprise IoT Devices:

- Level 1 elements
- Audit Log
- Multi-Factor Authentication
- Remote Deactivation
- Secure Boot
- Threat Monitoring
- Secure Backup

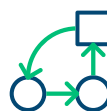


## Procuring Secured IoT Devices

You'll want to make the most informed decision possible if you procure IoT devices for your organization. The CTIA IoT Cybersecurity Certification Program, a third-party certification, takes the guesswork out of selecting secure devices.

When soliciting vendor quotes, incorporate the CTIA IoT Cybersecurity Certification into your Request for Proposal (RFP) requirements

Visit the [CTIA Certification website](http://www.ctiacertification.org) to learn more about the [CTIA Certification Internet of Things \(IoT\) Cybersecurity Certification Program](http://www.ctiacertification.org): [www.ctiacertification.org](http://www.ctiacertification.org)



### Get a Seat at the Table

The IoT Cybersecurity Certification Program is a proactive industry initiative that leverages the diverse expertise of the entire IoT ecosystem.

The Cybersecurity Certification Working Group works to achieve consensus among network operators, device manufacturers, test labs, and government agencies on industry needs and best practices for securing consumer and enterprise IoT devices.

Do you want to contribute to developing future cybersecurity certification standards?

Contact CTIA Certification at [cpwg@ctiacertification.org](mailto:cpwg@ctiacertification.org) to learn more about joining the CTIA Certification Cybersecurity Certification Working Group.

