



A matter of smart connectivity

Navigating the Matter connectivity standard

Introducing Matter

A foundation for connected devices, Matter is a new, royalty-free standard for delivering reliable, seamless and secure connectivity. Supported by leading technology companies — including UL Solutions — through the Connectivity Standards Alliance (CSA), Matter increases and improves compatibility among smart home products, with security and privacy as fundamental design tenets.

Built on Internet Protocol (IP) and proven technologies, Matter enables communication across various manufacturers' smart home devices, mobile apps and cloud services. The standard also defines a set of IP-based networking technologies for device certification.

[Watch the CSA video for more on Matter](#)

Connectivity Standards Alliance (CSA)

CSA members include hundreds of companies that create, maintain and deliver open global standards for the Internet of Things (IoT).

Established in 2002, the CSA's global membership creates and evolves universal open standards for the products that transform the way we live, work and play. Through the collective expertise of its members, robust certification programs and a full suite of open IoT solutions, the Alliance is leading the movement to enable all objects to simply, securely and seamlessly connect the world around you. The CSA launched the Matter working group at the end of 2019. UL Solutions joined the project in 2020.

Matter 1.1

Matter 1.1 was released on May 18, 2023. It creates an improved path forward for developers, offers new user experiences, and to more easily certify products they've developed and get them to users faster.

Matter 1.1 enhances support for a category of devices that apply to many smart home products: intermittently connected devices (ICDs). Sometimes called "sleepy devices," these are typically battery-powered products, like contact, motion and temperature sensors as well as door locks and

switches, that need to conserve power for optimal operation and lifespan. The additional support reduces the likelihood that a device will be reported as offline when users or platforms interact with it.

When it comes time for testing and certifying the devices they've built, new enhancements to testing automation make it easier for device makers to pre-qualify their products and verify they will pass certification. This is also an improvement for Authorized Testing Laboratories (ATLs) with improved automation making testing more efficient and comprehensive.

As an Authorized Testing Laboratory for Matter, UL Solutions offers Matter 1.1 certification testing in multiple locations worldwide. UL Solutions is one of the few one-stop-shop laboratories for connectivity certifications (Bluetooth®, Matter, Thread, Wi-Fi, Zigbee).

[Contact us to learn more](#)



Matter certifications

A Matter Software Component is an implementation of the Matter Specifications. UL Solutions tests Matter Software Components that:

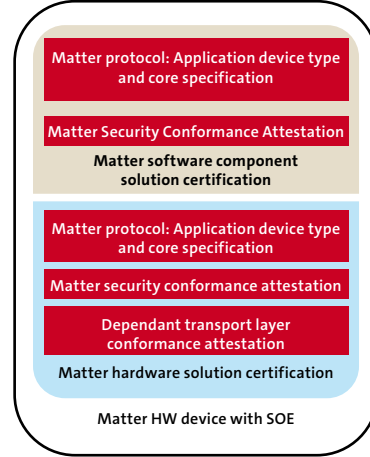
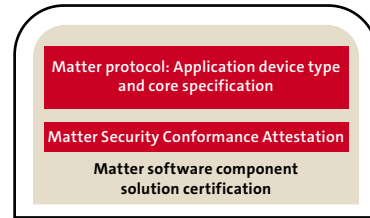
- Run within the context of a standard operating environment (SOE)
- Support certifiable functionality
- Are not attestable/commissionable Matter Hardware Devices

Matter Hardware Solutions submitted for testing are complete solutions. UL Solutions tests Matter Hardware Solutions (including cluster libraries and device types) that:

- Conform to interoperability specifications
- Support certifiable functionality

Components that qualify as both Matter Software Components and Hardware Solutions may be certified for both independently.

For cases when a Matter Solution supports both a Matter Hardware Solution and a Software Component Solution running on an SOE, the Matter Solution may be certified independently as a Matter Hardware Solution and a Matter Software Component Solution, or the device may be certified for all functionality as a Matter Hardware Solution.



Certification process



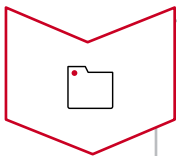
Apply to the CSA

- Become a CSA member as a Promoter, Participant or Adopter and request manufacturer ID.
- Complete development and choose an authorized test laboratory (ATL) such as UL Solutions to test your product according to Matter specifications.
- Complete and submit an application for certification in the CSA certification tool/portal, which includes PICS, DoC, DCP attestation and certification fees.



Testing

- Tests are scheduled and performed by the ATL according to the CSA certification policy and procedure.
- The ATL maintains comprehensive documentation of testing.
- Upon successful completion of the relevant certification data, the ATL submits the final product test results to the CSA for final review.



Auditing

- The CSA reviews the test results submitted by the ATL.
- Questions related to the submitted test results are forwarded to the ATL.



Approval

- If submitted test results meet Matter specification requirements, the CSA issues a product certificate to the applicant within two to three weeks of receiving the results.

Matter Dependent Certification Programs

Matter does not certify network and application layer solutions separately; the Matter Hardware Solution certification relies on dependent certification by Dependent Certification Programs (DCP).

Dependent certification provides a mechanism for a Matter Hardware Solution developer to attest to the certification of their products' connectivity capabilities (hardware and software) certification to the minimum Matter requirements for each of the different possible connectivity capability options. This allows for certification to be done by the IC device manufacturer, a module or platform manufacturer, or the actual Matter Hardware Solution manufacturer. Matter certification perspective can be inherited if — or when — it is used in instantiations that incorporate that externally certified dependent portion.

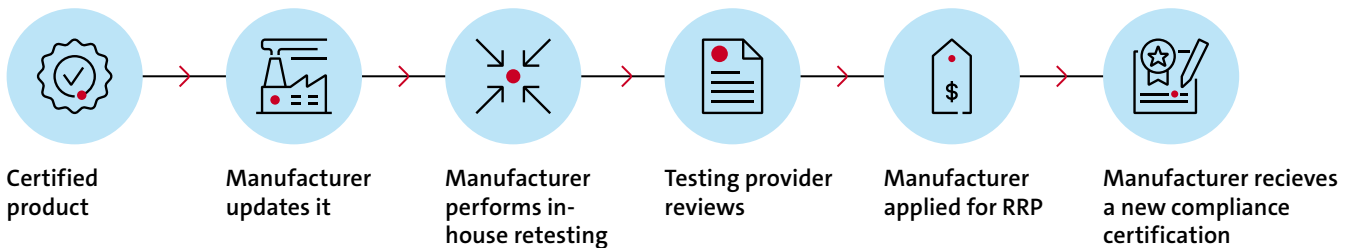
The following are the current DCP supported by Matter:

- Bluetooth SIG: Bluetooth LE v4.0 or later for an end product type (as defined by Bluetooth)
- Ethernet Compliance: Showing evidence of successfully passing self-defined and self-testing of IEEE PMA (Physical Media Attachment). See IEEE 802.3-2015 or later (Clause 40 for 1000Base-T, Clause 22/38 for 100BASE-T, and Clause 14 for 10Base-T) or later for a description of PMA.
- Wi-Fi Alliance Certification Program: Wi-Fi 4 (802.11n) or later
- Thread Group Certification Program: Thread 1.3.0 or later

Compliance to the dependent certifications for each of the Matter Hardware Solutions supported connectivity capabilities is verified during the application process when seeking CSA certification of a new or revised/updated Matter solution.

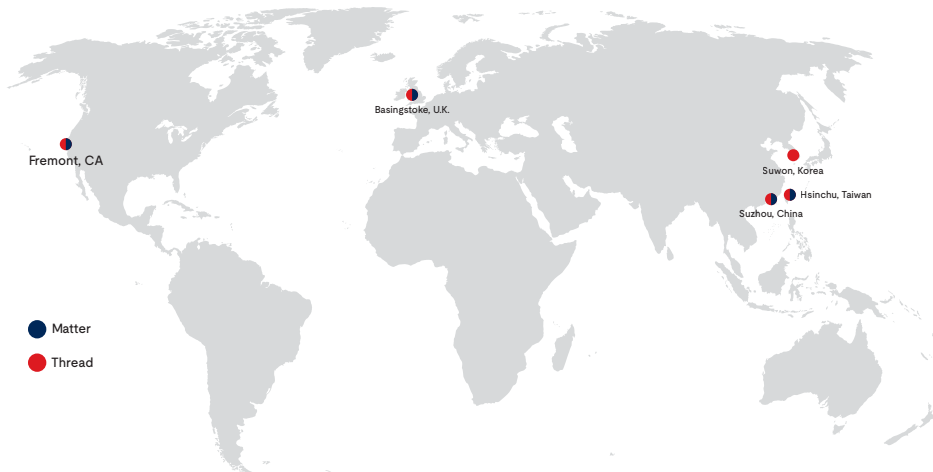
Rapid Recertification Program

The Matter Rapid Recertification Program was created to expedite the certification process by enabling qualified Alliance Members' own experts to perform product testing on their own premises while leveraging ATL's expertise to review and validate the results. These products include software components as well as hardware-based devices, and this program is solely applicable for product recertification, not for initial certification.



Our Matter and Thread testing locations worldwide

Covering Asia, Europe and North America



Safety. Science. Transformation.™