Wi-Fi CERTIFIED™ Certification Overview

March 2020
Wi-Fi CERTIFIED™ certification overview

• Wi-Fi Alliance® members may apply for product certifications in the Wi-Fi CERTIFIED™ program

• New product certifications may be obtained in two ways:
  – Testing at an Authorized Test Laboratory (ATL) or,
  – Leveraging an existing Wi-Fi CERTIFIED product to create a derivative certification (see Derivative Certifications Policy)

• All products must demonstrate interoperability for one or more of the current 802.11 MAC/PHY certification programs - Wi-Fi CERTIFIED 6™, Wi-Fi CERTIFIED ac, Wi-Fi CERTIFIED n, Wi-Fi CERTIFIED g, Wi-Fi CERTIFIED b, Wi-Fi CERTIFIED a or Wi-Fi CERTIFIED WiGig™

• All products must also be certified for current Wi-Fi® security programs Wi-Fi CERTIFIED WPA2™ or Wi-Fi CERTIFIED WPA3™ (as of July 1, 2020, all products must support WPA3™)

• Available optional certification programs are listed at https://www.wi-fi.org/certification/programs

• Only devices that have achieved at least a baseline MAC/PHY and security certification may be designated as Wi-Fi CERTIFIED
Wi-Fi Alliance certification testing philosophy

- Devices are certified by testing against Wi-Fi Alliance test plans.
- Wi-Fi Alliance certification testing validates that the Device Under Test (DUT) meets interoperability and program requirements.
- Wi-Fi Alliance certification testing stresses behavior of a DUT using defined test plans and test beds.
  - Test beds consist of specially chosen equipment in specific configurations.
  - All Wi-Fi features implemented in a product must be tested.
  - DUT must successfully interoperate with all equipment in the required test bed.
    - (Limited) performance measurements
    - (Limited) conformance to published specifications
    - Compatibility with test bed devices
Product certification

• Types of certifications
  – Source device: device tested at an ATL
  – Derivative device: based on a source device with no Wi-Fi component modification; no ATL testing required

• ATLs perform testing for:
  – New products
  – Additional certifications for an already certified product
  – Re-certification of an already certified product for change in firmware, driver or operating system

• Current list of ATLs

Derivative certification requirements

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<tr>
<th>Component</th>
<th>Source device</th>
<th>Derivative device</th>
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<td>Applications</td>
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Wi-Fi CERTIFIED testing basics

• ATLs require Wi-Fi Test Suite DUT software to be loaded onto devices for testing
  – Wi-Fi Test Suite reduces test time and manual intervention
  – Use of Wi-Fi Test Suite requires DUT to implement Wi-Fi Test Suite commands
  – For DUT software support, members should visit https://www.wi-fi.org/members/certification-testing/wi-fi-test-suite or contact support@wi-fi.org

• Test beds are available for purchase by qualified members for in-house testing prior to ATL testing
  – Qualified members include Sponsor, Contributor, Affiliate and Small Business Introductory Participant levels
  – The same test bed software used by the ATLs is provided to members at no charge
Sample test bed

Product representation of a test bed

DUT Device
ATL certification process

- **Dev DUT CTL Agent**: Member develops control agent for testing at the ATL: https://www.wi-fi.org/members/certification-testing/wi-fi-test-suite
- **Apply**: Member applies for certification testing and selects ATL: http://certifications.wi-fi.org
- **Schedule**: Member schedules testing with ATL
- **Test**: ATL receives two samples and begins testing
- **Report Test Results**: ATL reports test results on Wi-Fi Alliance certification system
- **Administration**: Wi-Fi Alliance reviews test results
- **Certification**: Wi-Fi Alliance issues Wi-Fi CERTIFIED Interoperability Certificate
Notes:
- 50% of products require a second testing cycle
- Times are estimates – will vary based on device-specific factors
- 802.11ac and Wi-Fi 6 will take longer to test

ATL sample timeline

First meeting with product engineering and ATL engineering
- Jan 9
- Jan 10

Lead time
- Jan 13
- 11 days
- Jan 28

Testing - Cycle 1
- Jan 28
- 5 days
- Feb 3

Results review
- Feb 3
- 2 days
- Feb 4

Fix issues found by ATL during testing
- Feb 4
- 10 days
- Feb 17

Testing - Cycle 2
- Feb 17
- 5 days
- Feb 22

Test results uploaded to Certification System
- Feb 22
- 2 days
- Feb 25

Date set for testing
- Jan 10

Contact ATL
- Jan 6

Product certified and added to Product Finder
- Feb 27

Results submitted to Wi-Fi Alliance
- Feb 25
Worldwide network of independent test labs delivers accessibility and quality